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ANNUAL REPORT

TO THE

City of Birmingham Education Committee

OF THE

MEDICAL SUPERINTENDENT,

INCLUDING THAT OF THE

Superintendent of Special Schools.

FOR THE

YEAR ENDED 31st DECEMBER, 1910,

*In accordance with Circulars 576 and 596 of the
Board of Education.*

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ANNUAL REPORT

TO THE

City of Birmingham Education Committee

OF THE

MEDICAL SUPERINTENDENT

(GEORGE A. AUDEN, M.A., M.D., D.P.H., M.R.C.P.),

FOR THE YEAR ENDED DECEMBER 31st, 1910,

*In accordance with Circulars 576 and 596 of the
Board of Education.*



ORDINARY ELEMENTARY SCHOOLS.

The year under review is the second complete year of Medical Inspection in the Elementary Schools. It has been marked by no change in the routine method of careful examination of the children submitted, nor in the groups of children chosen, viz., the groups specified in the code :

1. All children admitted to the school in the year.
2. All children who are expected to leave school in the year ;

Together with a third group (not specified in the Code) “ those children who have passed their seventh, but not their eighth birthday.”

Administrative details of the work of the Medical Department have been compacted or elaborated in the light of extended experience, while two changes in the medical staff have been rendered necessary by the appointment to other posts of two of the Assistant School Medical Officers. Dr. Lewis Graham resigned his appointment in October in order to take up the duties of Demonstrator of Anatomy at the Birmingham University. Dr. Agnes Parson, having been appointed Assistant School Medical Officer to the Lancashire County Council, resigned her appointment in August. Both these officers had been associated with the work since its inception in September, 1908. Their places were filled by (1) Geoffrey E. Oates, M.D. (Lond., State Medicine), M.R.C.P. (Lond.), D.P.H. (Camb.); and (2) Ada McLaren, M.B., Ch.B. (Edin.).

An additional Nurse Attendant, Nurse Greaves, began her duties on August 23rd.

In one school only, *i.e.*, St. Mary's C.E., Bath Street, has it been found necessary to conduct the medical inspection outside the school premises and in this instance the Board of Education sanctioned the use of the Parish Room. In the majority of schools it has been possible to set apart a classroom; in other schools the teachers' room has been used. In Ward End School it was only possible to give up part of a classroom for the inspection. The examination at this school only lasted one day and privacy was effected by the suspension of a curtain across the room.

DEFECTS FOUND.

The following list shows the number of defects found in the past year. Those found in the previous year have been added for comparison.

	1910.	1909.
1. EYES:—		
(a) Vision ($\frac{6}{12}$ or less) all causes	2,691	2,816
(b) Squints	891	700
(c) Corneal Ulcers, Opacities, and Keratitis	179	} 472
(d) Other Eye Defects	459	
2. EARS:—		
(a) Hearing Defective, all causes	1,631	} 1,235
(b) Otorrhoea	451	
3. NOSE AND THROAT DEFECTS:—		
(a) Tonsils or Adenoids	1,663	1,470
(b) Other Defects	349	—
4. CHEST:—		
(a) Phthisis—certain	33	50
(b) Phthisis—doubtful	81	81
(c) Other Lung Diseases	191	—
(d) Heart Disease—congenital	26	} 188
(e) Heart Disease—acquired	172	
5. CHOREA	42	25
6. EPILEPSY—including Petit Mal (undoubted cases)	37	42
7. HERNIA	92	84
8. ANEMIA (marked cases only)	70	—
9. SPEECH DEFECTS	121	96
10. DEFORMITIES (excluding Paralysis)	260	176
11. PARALYSIS:—		
(a) Upper Limbs	26	} 87
(b) Lower Limbs	41	
12. SCALP DISEASE:—		
(a) Ringworm	294	421
(b) Other	207	} 259
13. SKIN DISEASE	280	
14. OTHER DEFECTS	539	—
Total number of Children examined during the year ...		24,363.
Total number of Parents present at the inspection...		19,213.

AMELIORATIVE AGENCIES.

From the inception of medical inspection in September, 1908, the Medical Department has consistently endeavoured to ascertain what agencies are already in existence in the City for the amelioration of such defects as may be discovered, or for the relief of distress in its relation to child life, and to make such use of existing institutions as opportunity has allowed. It seems, therefore, a suitable opportunity to give a general survey of the amount of help which such agencies afford in the improvement of the health of the school child.

The problem of the hygiene of school life cannot be divorced from the general question of national health. Broadly speaking, a large proportion of the defects discovered in the inspection of the children owe their origin to removable causes, antecedent to school life, and any complete scheme for dealing with the physical disabilities must, therefore, include those agencies which attempt to deal with the child from its birth. Future measures of preventive medicine must start from the child.

The following short summary reveals some of the activities which are being directed in the City towards the protection and safe-guarding of child-life.

A. Before School-age.

1. The valuable aid afforded by the Notification of Births Act enables the Health Visitors to visit the homes of newly-born infants. 14,898 births were registered in 1910, and in connection with these 11,648 visits were paid by the Health Visitors. Leaflets on the proper care and feeding of infants are distributed by the midwives in the City.

2. Over and above this work of the Health Visitors a scheme was begun in 1908 in St. George's and St. Stephen's Wards—one of the most squalid districts in Birmingham, with a population of about 41,000. Dr. Jessie Duncan, Lady Assistant to the Medical Officer of Health, assisted by two Health Visitors, visits at frequent intervals during the first twelve months all the infants born. In the year 1910, 1,638 children were born and 12,542 visits were paid, while 613 mothers made 2,986 attendances at Infant Consultations. In addition a lady has supplied one substantial meal daily to women who are pregnant or nursing infants, and who are obviously in a condition of starvation. These are selected by Dr. Duncan and her assistants.

3. Since the autumn of 1907, similar work has been done by the Birmingham Infant Health Society in the municipal ward of St. Bartholomew's and the immediate neighbourhood. On December 31st, 1909, there were on the register 653 children (infants 413, second year 196, third year 44), while 576 new names were added in 1910. These children have been visited regularly by the qualified lady superintendent and by various voluntary lady workers, while 411 infants were brought to the "consultations" in which the mothers are instructed in the proper methods of rearing children. There is also an Expectant Mothers' Club.

4. The Guild of Mothers in connection with the Women's Settlement, carries out work on similar lines in St. Mary's Ward with equally satisfactory results. 402 mothers with their infants came within the influence of the Guild. Here also there is an Expectant Mothers' Club.

5. The Birmingham People's Kindergarten Association maintains two Kindergarten classes of thirty children up to the age of five or six years, one at Greet and the other at the Women's Settlement, Summer Lane. The classes are very largely carried on under open air methods, and the physique, nutrition and cleanliness of the children attending the latter class show the value of the work which is being done.

These societies deal with areas where poverty is seen in its most grinding form. The value of this work is obvious, and the children (who in these districts are admitted to school at the earliest possible age, *e.g.*, at three years or even earlier), who have been thus tended and watched, will be likely to be in a more favourable condition on reaching school age than their less fortunate brethren who have not come within the scope of any such agency.

B. During School Age.

There is at present no organised system of Care Committees, although in several areas of the City valuable work is being done in this direction, *i.e.* :—

1. The Women's Settlement have taken five departments of schools as the sphere of their work, *viz.*, Summer Lane, Smith Street and Elkington Street Schools; St. George's C.E. School, Great Russell Street, is now to be added to this list. During 1910, 130 children requiring spectacles were dealt with. The parents found fifty notes for the Eye Hospital, the Settlement found 114. Grants for spectacles amounted to £4 2s. 11d., loans to £7 13s. 3d., of which £3 5s. 11d. has been repaid. Bad debts amounted to £1 6s. 4d. The £3 has still to be

collected. 49 ear and throat cases were dealt with in a similar way. Co-operation is made with the Medical Department or with the Guardians where possible and treatment is arranged in many other cases. Breathing classes are held for children who have undergone operation for adenoids and nose-blowing is not forgotten for some of the infants.

2. There is also a Care Committee in connection with Dartmouth Street School. In the past year the names of 57 children exhibiting defects of eye-sight and adenoids requiring attention were received. Of these 35 have been (January, 1911) satisfactorily dealt with; 11 have received care and will receive the required attention in due course, while in the remaining 11 the parents refused to take action or have left the neighbourhood. Of seventeen pairs of spectacles supplied, in 11 cases the parents have repaid the whole of the cost, while four have nearly completed the full payment. In addition, several children have been sent to a Convalescent Home, and other forms of assistance have been given. These results are the more encouraging when the poverty stricken character of the district is born in mind, and are a striking example of the value of aid of this kind.

3. The Managers of St. Alban's C.E. School and the Managers of St. David's C.E. School have recently begun schemes to follow up the notification of defects discovered in the course of medical inspection. The method adopted in the case of St. Alban's School is as follows. A list of the children reported as having remediable defects is forwarded to the Parochial Relief Committee. Visits are then paid to the homes and information elicited as to the circumstances. If spectacles are required the parents must pay at least a share towards the cost, even if this is only nominal, except in those instances in which the

impossibility of paying a portion is proved. By these means twelve parents contributed to the cost of glasses and fourteen pairs were supplied free. Other help is given by means of hospital notes where treatment is required. In a large number of schools, both Council and Voluntary, the teaching staff have done splendid work in this connection by encouragement and assistance in obtaining the necessary treatment. Their efforts in this direction have been greatly aided by—

4. The Children's Charities Fund of the National Union of Teachers. Miss Beston, the Hon. Secretary, reports that during the year 1910 about £500, collected in connection with the schools, has been used in obtaining help for the children. The accompanying list indicates the number of hospital notes issued by this fund :—

General Dispensary	...	...	...	1,184
Birmingham and Midland Eye Hospital				900
Ear and Throat Hospital		...	...	480
General Hospital	...	...	...	330
Orthopædic Hospital	...	...	...	66
Dental Hospital	...	...	...	61
Moseley Convalescent Home	...	...	...	6

In addition, the Committee of the fund assisted in the purchase of spectacles in upwards of sixty cases.

Next, there are a number of institutions, the object of which is to supply curative measures for actual defects. The district is abundantly supplied with institutions of this kind in hospitals giving treatment for general, ear, throat, skin, orthopædic, teeth and zymotic disorders. The Dispensaries and Poor Law Medical Officers also deal with a large number of ailing children.

Although difficulties would undoubtedly be met with in the abolition of the note system which is at present in vogue, there is little to be said in its favour. It is often exceedingly difficult to obtain the number of notes required for a deserving case, and the search often entails much tramping about and delay, and frequently leads to the abandonment of the attempt to secure treatment. It moreover directly encourages a form of begging with a corresponding loss of self-respect.

This disadvantage is absent from the work of the Floodgate Medical Mission which, situate in the centre of a very poor quarter of the City, deals with a very large number of children each year. During the year 1910, it is estimated that there were 8,000 attendances of children of school age for medical interviews, and 6,400 attendances of children for dressings, teeth extractions, burns, etc., while 600 visits to sick children were paid by the Medical Superintendent of the Mission. *Inter alia*, 159 children were registered as suffering from enlarged tonsils and adenoids, and upon 121 of these operations were performed; 120 children were sent to Convalescent Homes, the funds being chiefly raised by friends of the Mission.

Mention must also be made of the work of the Birmingham District Nursing Association in this connection, for a large number of sick children are attended at their own homes by the District Nurses. In the past year 3,962 visits were paid to the homes of children and 115 children were visited at the request of the School Medical Superintendent. Of these, 104 were suffering from Otorrhœa.

We pass on to those agencies which provide general amelioration of the conditions of the poor and are not strictly curative in their scope.

(1) The Police Aided Association for Clothing Destitute Children : The recipients are recommended by the Head Teachers and independent enquiries are made by the police and by a number of visitors. In the year ended June, 1910, 3,243 cases were dealt with and 11,069 garments and 3,083 pairs of clogs were distributed. Care is taken to prevent overlapping with other agencies.

(2) The Daily Mail Fund : During the winter, 1909, this fund was the means of distributing 5,345 pairs of boots, 5,478 pairs of stockings, and 2,858 garments within the City. In addition, sums of money are given by this fund to many agencies and to the schools to be spent in special ways on behalf of the children.

(3) The City Aid Society : A very large number of children are helped every year by the exertion of this Society, either directly or by the aid given to the families. Thus, in twelve months (April, 1908, to March, 1909) there were 3,851 children belonging to those who made a first application during this period.

(4) Help of a similar character is given by the Charity Organisation Society.

(5) The Children's Country Holiday Society : In 1910, 1,910 children were sent into the country for two weeks, of whom 1,830 were recommended through the Elementary Schools. The parents pay a share of the

cost; 76 only went as free cases (*i.e.*, they paid only 1s. for railway fare); 31 paid the full amount; the average share paid by the parents was 4s. 4d. A large number of children received gifts of clothing in addition. A new venture has been begun in the form of a Convalescent Home, in which nine children stayed for a month or more, several of whom I was permitted to recommend by the courtesy of the society.

(6) The three Convalescent Homes at Moseley Hall, Solihull and Great Barr also supply aid in this way for children suffering from severe malnutrition or convalescent from acute disease, while the Woodlands Convalescent Home at Northfield receives cripples who require rest and nursing attention.

The other agencies belonging to this category, which are tabulated in the accompanying table, need no special or detailed description, though mention may be made of the work of the Street Children's Union, whose summer camps serve especially to instil into their members a self respect and sense of citizenship, in no small measure based upon an experience of the comfort and benefit which accrue from a higher sense of personal hygiene. 322 boys attended the summer camp in 1910. In addition, a few boys have been sent to Convalescent Homes.

The Cinderella Camp supplied a fortnight in the country for 260 children.

The foregoing list takes no cognisance of the vast amount of private charity of all sorts which is dispensed both directly through the schools or through other channels. Nor can the list be considered complete.

AMELIORATIVE AGENCIES.

1. *Before School Age.*

- (a) Health Visitors, Infant Health supervision and consultations, in St. Stephen's and St. George's Wards, with Assistant to Medical Officer of Health (Lady).
- (b) Birmingham Infant Health Society.
- (c) Guild of Mothers (St. Mary's Ward).
- (d) Birmingham People's Kindergarten Association, Summer Lane.

2. *During School Age.*

- (a) Care Committees at St. Alban's, St. David's C.E., and St. Jude's C.E. Schools, and Dartmouth Street Council School.
- (b) Women's Settlement, Summer Lane (3 departments), Elkington Street, Smith Street Infants', and St. George's C.E. Schools, Great Russell Street.
- (c) Teaching Staff and National Union of Teachers Children's Charities Fund.

3. *General Curative Agencies.*

- (a) Hospitals :—
 - (i.) General : General, Queen's and Children's.
 - (ii.) Special : Eye, Ear, Skin, Orthopædic, Dental, Salterley Grange, and City Fever Hospitals.
- (b) The Birmingham General Dispensary and its branches.
- (c) The Poor Law Medical Service.
- (d) The Floodgate Medical Mission.
- (e) The Birmingham and District Nursing Association.
- (f) The Woodlands Convalescent Home for Cripple Children.

4. *Educational Institutions.*

- (a) Physically-Defective Schools (2), accommodation 200.
- (b) Deaf Schools (2), accommodation 104.
- (c) Mentally-Defective Schools (7), accommodation 730.
- (d) Partially-blind Class, accommodation 40.
- (e) Deaf Institution.
- (f) Royal Institution for the Blind.

5. *General Ameliorative Agencies.*

- (a) Sanatoria : Moseley Hall (62 beds), Solihull (16 beds), Blackwell (a few children above 10 years), Hospital Saturday Fund, Red House (50 beds).
- (b) City Aid Society.
- (c) Police Aided Association for Clothing Destitute Children.
- (d) "Birmingham Daily Mail" Fund.
- (e) Street Children's Union.
- (f) National Society for the Prevention of Cruelty to Children.
- (g) Charity Organisation Society.
- (h) Society for Providing Country Holidays for Town Children.
- (i) Boy Scouts, Cinderella Camp, etc.

6. *After-Care Committees.*

- (a) Juvenile Employment Bureaux Committee.
- (b) Women's Settlement Employment Committee.
- (c) Bishop Ryder's School After-Care Committee.
- (d) Special Schools After-Care Committee.

NEED OF CO-ORDINATION.

Satisfactory as this great stream of charity must be when viewed from the humanitarian standpoint, there is another aspect of the problem which can hardly be regarded with complacency.

The list shows that although much is being done to improve the conditions of child life, even with the most complete co-ordination and co-operation there would still remain large gaps in the network of ameliorative activities which could not be filled up with existing agencies. The chief defects, tonsils and adenoids, defective teeth, ring-worm and eye defects, are found in such numbers that they cannot be dealt with at present in any adequate manner.

The curative aspect of medical inspection is but one part of any thoroughly organised system of school hygiene, which covers the questions of seating, lighting and cleansing of schools, sanitary accommodation, feeding of children, Open Air Schools, infectious disease incidence, physical and mental defect. All these can be dealt with in the first place with greater directness by a School Hygiene Committee, with whom the School Medical Officer is in close and actual touch. The formation of Care Committees will render a School Hygiene Sub-Committee of the Education Committee still more necessary, for to it belongs the ultimate responsibility, and it alone can be the centre of the nexus of ameliorative activities embraced within the scope of school hygiene.

Over and above this lack of co-ordination must be added the parental indifference which springs from lack of intelligence and self-respect. This contributory cause

is, and must remain the chief point against which all efforts must be directed. Too frequently the means of amelioration employed have been directed rather to the immediate relief of the individual than to the fundamental factors which are the determining causes of the need for assistance. The truth of this statement may be exemplified by the numbers of children who are year by year in receipt of free breakfasts or of the clothing supplied by one or other of the charitable agencies. The daily dole of food or the annual gift of clothing is directed to benefit the individual child and no cognisance is taken of the factors which cause the chronic need of the family. The family rather than the individual must be regarded as the unit.

The formation of a series of School Care Committees, which would include the whole number of schools in the scope of their labours, would go far to supply the initial co-ordination which is necessary and would allow the problem to be attacked from the point of view of the home. Such a scheme would admittedly make large demands for auxiliary help, but it is not too much to hope that this help would be forthcoming. Not only would it help to remove much of the indifference and ignorance with which the national system of education is so generally regarded, but the scheme would form of the various agencies at work an organic unity of personal service which could not fail to confer a lasting benefit upon all concerned.

The parochial organisations lend themselves readily to the formation of Care Committees in connection with many of the non-provided Schools. Such Committees would be an invaluable adjunct to the work of medical inspection, and the experience already gained at St. Alban's School,

Dartmouth Street School, and in the schools undertaken by the Women's Settlement shows that at a low estimate three-quarters of the children found to be suffering from remediable defects can obtain the necessary treatment. At the present time only 15 out of 270 departments are associated with agencies of this character (5·5 per cent.), yet any scheme for after-care and assistance in the choice of work will not realise the full possibilities of its usefulness unless supplemented by some form of Care Committee which has already done much of the spade work before the child attains the leaving age.

This is strongly impressed upon us again in the course of the examination of children who show some physical defect such as paralysis or crippling injury of a limb which has not, however, prevented them from attending the Elementary Schools. The industrial outlook for such children is never bright, and there may be long delay before suitable employment can be obtained. Under the auspices of a Care Committee this delay may be sometimes considerably shortened. Again, the detection of defective eyesight is mere waste of time and energy if no steps are taken to remedy this defect, which will prove a serious handicap in many forms of occupation.

C. After School Age.

Up to the present time the Head Teachers have formed the chief agency for securing employment for the children leaving and a very large number have been "placed" in this way. Thus, in the year ending September, 1910,* 923 situations were found for boys out of 4,257 leavers, and 399 out of 3,791 girls.

* Report of the Special Sub-Committee on the institution of a Juvenile Employment Bureau and Care Committees in Birmingham, 16th December, 1910. (Appendix 1.)

The Women's Settlement Employment Committee has done very useful work in assisting girls in eight schools in the immediate neighbourhood to obtain suitable employment on leaving. Lists of the leavers are received each quarter and meetings for parents, social meetings and home visits are some of the means employed. During 1910 three parents' meetings were held and two or three skilled trades were described by experts, with some accounts of the conditions, prospects and best means of training. During the year 95 applications for advice were received; 34 applicants were "placed," while many of the remainder found work for themselves. The Committee has endeavoured to keep in touch with these and also with those "placed" in 1909. Each girl has been interviewed and urged to join a continuation school, or Girls' Club, and to make an attempt to save a portion of her earnings.

An After-Care Committee has recently been established in connection with Bishop Ryder's School for aiding children to obtain suitable employment on leaving school.

The After-Care Committee of the Special Schools complete the list of After-Care and Employment Agencies.

As was shown in the Medical Report for the year 1909, the School Medical Officer can play a very useful part in an advisory capacity upon an Advisory Committee for Juvenile Labour. This is recognised by the Board of Trade, which, in November, 1910, nominated me as one of the Advisory Committee for Juvenile Employment under Section 2 of the Labour Exchanges Act, 1909. In the scheme adopted by the Attendance, Finance and General Purposes Sub-Committee this line is followed and the Medical Superintendent is to be an *ex officio* member of the proposed Committee

The list of defects found (see page 5) takes no cognisance of the number of children found to be ill-nourished, ill-shod, or ill-clad. These conditions vary so widely in different schools, and at different seasons, that figures give no evidence of any value as to their extent. Indirect evidence as to the underlying or pre-disposing causes may be derived from the following table :—

TABLE SHOWING INDUSTRIAL CONDITION OF FATHERS AT THE DATE OF EXAMINATION OF THEIR CHILDREN

(The Schools are arranged according to the Wards in which they are situate.)

NAME OF WARD.	Per cent. at Full Time Work.	Per cent. at Part Time Work.	Per cent. prevented from Work on account of Illness.	Per cent. Dead.	Per cent. Out of Work.
Saltley... ..	74·9	16·1	·9	5·2	2·6
Edgbaston	71·6	17·1	1·5	5·3	4·2
Rotton Park	68·4	18·9	2·2	5·3	4·2
Balsall Heath... ..	70·	15·8	1·1	7·7	5·1
Duddeston	68·5	20·4	·9	5·2	5·2
Bordesley	70·1	15·6	2·2	6·4	5·6
Nechells	57·6	28·	3·1	5·1	6·
All Saints'	57·	28·2	2·7	5·3	6·6
St. Mary's	45·2	39·	2·1	6·	7·5
Ladywood	61·1	20·8	1·7	8·3	7·8
Deritend	44·5	31·5	5·1	10·2	8·4
St. George's	44·2	35·9	2·9	7·5	9·3
St. Stephen's	43·7	35·4	2·5	7·3	9·3
St. Paul's	47·1	32·7	1·1	8·4	10·5
St. Thomas'	53·	23·7	2·6	8·3	10·9
St. Martin's	41·8	25·7	5·4	13·3	13·6
St. Bartholomew's	43·9	27·7	3·3	8·9	13·9

The following figures summarise the work of the Medical Department :—

Medical Superintendent :—

Visits to Elementary Schools	...	...	215
Visits to Special Schools	...	...	114
Visits on behalf of After-Care Sub-Committee			30
Attendances at Police Court	...	...	1
Members of Staff interviewed at office	...		63
Examinations for Board of Education Certificates			50
Visits to homes of cripples	...	...	7
Visits to breakfast centres	...	...	8
Epileptic examinations at office	...	...	8
Examinations at office for ringworm		...	946
Individual children examined at office		...	955
Total number of examinations of children at office (including ringworm)	...	...	1589

Assistant Medical Officers :—

Total number of children medically inspected			24363
Total number of visits to schools	...	...	1084
Refraction examinations at office	...	...	631

“ FOLLOWING-UP.”

The appointment of a fourth Nurse-attendant has rendered more frequent visits to the schools possible in the intervals between the annual inspections. Each Nurse-attendant is released in turn from the routine work of medical inspection for two weeks to revisit the schools in her district. By these means it is now possible to estimate how far action has been taken as the result of the findings of the School Medical Officer. Lists of children who showed defects when examined are taken by the Nurse, who notes upon them what curative steps, if any, have been taken. The repeated presence of a uniformed nurse in the school, and the individual enquiries made by her

give an official aspect to the visit which is not altogether without an influence, although indirect, upon the indifferent parents, who hear from their children that a watch is being kept upon them. Useful as the method has proved itself in supplying statistics, it cannot be said to do as much as could be desired, for as she does not visit the homes of the children, the Nurse-attendant is not brought into direct relationship with the recalcitrant parents. The success of medical inspection from this point of view is directly proportional to the degree of influence which can be brought to bear upon the parents.

The labours of the teaching staff in this connection have a value which cannot be over-estimated, but these are limited in the same direction, and, though they manage to get numbers of parents to come up to see them at school, yet their sphere of action does not extend beyond the school precincts. Nor is it possible to make any larger demand upon the District Nurses (see p. 11) within the scope of whose duties are the poor of all ages.

The percentage of parents who are present at the examination of their children is unusually high for an industrial City, and is an earnest of the high value which is set upon the opportunities afforded by medical inspection.

HEIGHTS AND WEIGHTS.

In the report for 1909 an attempt was made to arrange the schools in such a way as to show the relationship and correlation between the height, weight, number of eye defects, and the social conditions in the different areas as indicated by the Infant Mortality Rate. An attempt is now being made to carry the investigation a step further by focussing attention upon the schools in a single ward in

which the social conditions, as evidenced by the Infant Mortality Rate, are unfavourable, *i.e.*, St. Bartholomew's Ward. The mean average weight of all the children attending the schools has been calculated for each age group. These mean heights and weights can thus be compared and correlated with the Infant Mortality Rate of the year of birth. The problem is to determine whether the de-vitalising conditions which kill the infants have an influence upon the survivors such as can be gauged by actual measurements in after years. For satisfactory evidence on this head it is important to carry the investigation over a number of years. It has, therefore, been felt advisable to postpone any tabular statement of the results for a future report.

DEFECTIVE VISION AND THE PROVISION OF SPECTACLES.

The scheme for obtaining spectacles at reduced prices, which was begun in 1909, has been continued and reports from the two opticians who supply the spectacles show that 323 children have availed themselves of the opportunity. In the list of defects observed during medical inspection it will be noted that 2,691 children were found to possess one-half (or less) vision (891 children were suffering from squints, the majority of which require glasses. Most of these will be included in the above figures). Thus, in spite of the advice and attention devoted to explaining the necessity to the parents, only 12 per cent. have remedied the defect which, in many cases, causes educational loss and will result in a diminution of industrial efficiency. But these figures do not represent the full seriousness of the present situation. The number of refraction examinations made at the office during the year 1910 by the School Medical Officers was 631. Each examination occupies an average time of more than half

an hour, and yet the net result has been that more than 50 per cent. of their time and energies in this direction has been thrown away. Under existing circumstances they would be more profitably engaged in other duties more productive of result. Results equally unsatisfactory attend the scheme at the Eye Hospital. Here in the press of refraction and other cases it is hardly to be expected that the waste of the time of the Medical Staff upon children who cannot or will not take the necessary steps to secure glasses can be viewed with equanimity. Every effort is made to induce the parents to make use of the School Savings Banks, and grants have been made from various sources towards the cost in many deserving cases, but the fact remains that the ignorance and apathy of the parents, many of whom are well able to supply the cost of the glasses, render useless the labour expended upon their children, and that more stringent and active measures are necessary to secure that proper steps shall be taken. Section 12* of the Children Act gives ample powers. The parent who has submitted his child to medical inspection or who has further received a prescription for glasses cannot plead ignorance; his neglect is, therefore, wilful and is a misdemeanour under the Act. A number of the parents who fail to get glasses after receiving a prescription do so because of the difficulty of obtaining sufficient ready cash to cover the cost. The creation of a fund from which grants could be made to this end would greatly diminish this difficulty, as is seen by the reports of the Care Agencies, which are in most cases, able to recover the whole cost by receiving it in

* If any person who has the care or custody of any child . . . wilfully causes such child to be . . . neglected or exposed in a manner likely to cause such child unnecessary suffering or injury to health (including injury to or loss of sight . . .), that person shall be guilty of a misdemeanour . . . a parent shall be deemed to have neglected him . . . if he fails to provide adequate food, clothing, medical aid . . .

small weekly repayments. It has been ascertained that during the year 1910, thirty-two pairs of spectacles were supplied to school children by the Birmingham Poor Law Guardians.

The day class for partially blind children has been established at the Royal Institution for the Blind, Edgbaston, and proves an inestimable boon to those children who, by reason of severe eye defect, are unable to attend an elementary school without danger to themselves. This class is dealt with in detail in the Special Schools section of the present report. (Page 92.)

ADENOIDS AND DEAFNESS.

The close relationship between the presence of adenoids and acuity of hearing is illustrated by the identity of the number of children reported as having defective hearing, and as suffering from adenoids (1,631 and 1,663). It is not possible to discover how many children have been operated upon, but the proportion is quite insignificant in comparison with the large number in need of operation. The provision of facilities for the treatment of adenoids is one of the most pressing needs of the work. Too little attention is at present paid to the after-care of children whose adenoids have been removed. Unless nasal breathing is carefully and systematically exercised, the mouth breathing and other symptoms of nasal obstruction which have become habitual are continued as before the operation, which is thus shorn of much of its utility. There are also many children who have become mouth breathers and who suffer from chronic rhinorrhœa for whom proper training in the use of a handkerchief and in breathing may render an operation unnecessary. The presence of adenoids is generally evidence of a catarrhal

condition, which is not necessarily relieved by operation. The number of children found to suffer from otorrhœa is surprisingly large (451), and the importance of the removal of the affection cannot be exaggerated. Not only is it a menace to the health of the sufferer, but, as it is nearly always associated with deafness, it interferes with the receptivity and mental growth of the child. Moreover, the discharge is often so foul that the child cannot continue to attend school. This defect requires simple but long continued treatment, and constitutes one of the chief arguments for a systematic arrangement with the District Nursing Association (see p. 11).

SPEECH DEFECTS.

In the course of inspection 121 children were discovered who showed defects in the power of speech. The chief groups to which they belong are :

1. Those who have not full nerve control over the mechanism of speech, *i.e.*, stammerers and stutterers.

2. Those in whom the power of articulation is imperfect. The defect in these cases may range between a lisp or difficulty in pronouncing consonantal sounds to those in whom the speech is so inarticulate as to be unintelligible, and deserves the title idioglossia. This latter form is most constantly found in conjunction with other signs which mark the child as mentally defective.

In a previous report reference has been made to the present hardship suffered by these children, whose disabilities render them unable to take proper advantage of the school curriculum. Further, they find it difficult to obtain suitable situations on leaving school, for a would-be

employer is not unlikely to reject an applicant for employment who is unable to state quickly what he wants. Nor do they fare much better if they attempt to secure unskilled employment such as that of a messenger or errand boy.* Yet the condition is eminently one which in a large proportion of cases admits a cure with proper care and attention. Thus, during the five years in which the Special Classes for Stammerers have been held in Manchester, 300 children have received attention, and it is stated that the majority of them have remained permanently cured.

Two methods of conducting classes are in vogue :

1. The peripatetic class. This is the method employed by the Manchester Education Committee. A class is held in a quarter of the City where there are a number of stammerers, who are chosen for the purpose by the School Medical Officer. The method of teaching employed is that of the late M. Leon Berquand, and the course lasts about six weeks. One teacher is employed, but the work is supervised by one of the Inspectresses of Infants' Schools who received her training at the hands of M. Berquand. Another class is then formed in another part of the City.

2. The separate teacher system. In many of the schools in Germany, *e.g.*, at Mannheim and Frankfort, one member of the teaching staff has received special training in the correction of speech defects. A mirror for teaching proper lip movements and lip reading is part of

* "It must be borne in mind that this defect in speech lessens the wage-earning capacity, and consequently increases the chances of the children returning later on the rates." (*Report of Miss Evans to Local Government Board, 1909-1910.*)

the usual apparatus. In many places it is the constant accompaniment of special classes and the class rooms of special schools.

The need for some provision for these children in Birmingham is evidenced by the number reported as suffering from speech defects.

DEFECTIVE HEARING.

Closely associated with the function of articulate speech is the function of hearing, and it is a well-known fact that the partial or complete loss of hearing in a young child quickly leads to a loss of much, if not all, of the language which has been already acquired. The majority of these children are most suitably educated by oral methods in the Deaf Centres, where the training is designed to teach language as well as to educate the capacity for lip reading and articulation. There are, however, other children, the partially deaf, who have retained sufficient hearing and word-memory to render them not suitable for the ordinary methods necessary for deaf-mutes, for "their habits of thought belong to the hearing, not to the silent world" (Dr. Kerr Love). The proper handling of language must remain the keynote to the proper education of all deaf children. It is, therefore, undesirable that these partially deaf children should be taught in association with the congenitally deaf or with those whose early loss of hearing has left the faculty of language undeveloped. It would seem, therefore, that some form of special class analogous to that for the partially-blind children is desirable in which training in lip reading should hold a pre-eminent position. Classes for these children are already in being at Glasgow, Bristol and London, while in Germany they form an integral

portion of the curriculum for special schools (Berlin, Munich, Heidelberg). Even if these semi-deaf or "hard-of-hearing" children are placed in the front row in a normal school the size of the classes renders adequate individual attention impossible. One great advantage of such a class would undoubtedly be that it would enable attention to be focussed upon progressing or remediable cases and thus to secure satisfactory treatment.

TEETH.

As has been indicated in previous reports, a generous donation was made some three years ago towards the inception of a scheme for the treatment by the staff of the Dental Hospital of the teeth of the children attending the Elementary Schools. It was decided by the Committee of the Dental Hospital to utilise the sum thus placed at their disposal to treat all the children in certain selected schools (subject to parental consent) by way of a preliminary experiment. The donation became exhausted in the course of the past year and the necessary cessation of the work serves to throw into strong relief the value of the work which has already been done. It has served as a practical object lesson to the children and to the parents in the advantages of a clean and healthy mouth, while it has demonstrated how small a *per capita* outlay suffices to maintain the teeth of a large number of children in a satisfactory condition. The procedure followed has been simple and has entailed a minimum disturbance of the school routine, for during the preliminary examination the class has been transferred to the hospital and the timetable lesson proceeded with until all the children have been charted. For the subsequent treatment the children have gone in groups to the hospitals.

Sound teeth are essential to the physical welfare of the children. Apart from anæmia and stomachic troubles, it is a fact clearly demonstrated that infectious disease and especially tuberculosis have a very definite relationship to the existence of decaying teeth. It is not too much to say that there is no branch of curative effort where so great and lasting a benefit can be obtained from a minimum of monetary outlay as from that expended upon the treatment of the teeth. The accompanying tables show the amount of work done under this scheme by the staff of the Dental Hospital.

SUMMER LANE (*including Re-visiting*).

No. examined, 2,389. Requiring treatment, 2,294 or 96%.
Treated, 1,474.

Extractions under Anæsthetics	(Boys 381, Girls 354)	2,710
„ without „	(Boys 587, Girls 343)	1,591
Fillings (Permanent)	... ..	2,176
„ (Temporary)	... ..	145
Root Fillings	... ..	61
Dressings, etc.	... ..	437
Total number of operations	... ..	7,120
Total number of attendances	... ..	2,185

BRISTOL STREET.

No. examined, 1,310. Requiring treatment, 1,139 or 87%.
Treated, 960.

Extractions under Anæsthetics	(Boys 215, Girls 247) (Temp. 835, Perm. 1161)	1994
„ without „	(Boys 316, Girls 262) (Temp. 1,475, Perm. 9)	1484
Fillings (Permanent)	... ..	1,504
„ (Temporary)	... ..	193
Root Fillings	... ..	81
Dressings, etc.	... ..	307
Total number of operations	... ..	5,563
Total number of attendances	... ..	1,613

ST. GEORGE'S, GREAT RUSSELL STREET.

No. examined, 718. Requiring treatment, 657 or 91%.
Treated, 457.

Extractions under Anæsthetics	{ Boys 101, Temp. 293,	Girls 57 Perm. 461 }	754
„ without „	{ Boys 138, Temp. 572,	Girls 70 Perm. 2 }	574
Fillings (Permanent) ...	...	...	574
„ (Temporary) ...	...	...	48
Root Fillings ...	...	...	25
Dressings, etc. ...	...	...	154
Total number of operations	...	...	2,129
Total number of attendances	...	...	739

ST. CHAD'S R.C.

No. examined, 716. Requiring treatment, 658 or 92%.
Treated, 252.

Extractions under Anæsthetics	{ Boys 54, Temp. 165,	Girls 57 Perm. 274 }	439
„ without „	{ Boys 39, Temp. 237	Girls 49 Perm. 0 }	237
Fillings (Permanent) ...	...	...	254
„ (Temporary) ...	...	...	1
Root Fillings ...	...	...	5
Dressings, etc. ...	...	...	17
Total number of operations	...	...	953
Total number of attendances	...	...	314

HEBREW SCHOOL.

No. examined, 439. Requiring treatment, 418 or 95%.
Treated, 144.

Extraction under Anæsthetics	{ Boys 19, Temp. 128.	{ Girls 18 Perm. 66 }	194
,, without ,,	{ Boys 38, Temp. 251	{ Girls 27 Perm. 0 }	251
Fillings (Permanent)	...	...	160
,, (Temporary)	...	...	4
Root Fillings	...	...	2
Dressings, etc.	...	...	22
Total number of operations	...	...	633
Total number of attendances	...	...	194

The extent of the requirements of any scheme for dental treatment can be shown by a simple calculation. If the 5-8 age group alone be considered, as being the period during which conservative dentistry is most efficacious, and if it is assumed that 80 per cent. of these children will require treatment, there will be at least 24,000 children to be dealt with.

The inculcation of the care of the teeth, as of cleanliness of body and clothing, is one of those efforts which depend less upon formal lessons and talks than upon the personal influence and enthusiasm of the teacher. The results of this influence, even upon what appears to be most unpromising material, bear witness to the splendid work which is being done, and the still greater work which may yet be done, through their example and care. The Standard I. in the Infants' Department at Burbury Street School may be cited as one example out of others. Every child now possesses a tooth brush and uses it night and morning, as the cleanliness of their teeth testifies.

RINGWORM.

It is probable that at any given time there at at least 600 children excluded from school for ringworm. The frequency and wide distribution of this parasitic disease in the schools shows that the means of dealing with it at present in vogue are entirely inadequate for the purpose. The long continued absence from school which is necessary under the present circumstances, and the consequent loss of education and of controlling supervision which it entails, makes it one of the most serious of school infections, while the by no means inconsiderable financial loss which it inflicts gives additional urgency to the question of the provision of curative methods. It cannot be too strongly insisted upon that the disease can be completely stamped out and that a few years of energetic administration of appropriate measures could render it as rare as it is already in Germany. During the past year the Medical Officers have discovered in the course of their inspections 292 children suffering from ringworm. These figures, however, give no true evidence as to the actual prevalence of the disease, for numbers of children are sent out of school by the teachers, who report them to the Medical Officer of Health. A large number of children attend at the office on Thursday morning in each week, and during the year I have made 946 examinations for ringworm. In setting aside one day per week for the examination of these cases the original object was to allow a careful examination before re-admission of a child excluded for ringworm. This work has developed considerably, and many children are now brought up by the parents for periodic re-examination. Although no actual treatment is carried out at the office, the individual attention and detailed advice given in each case and the continued supervision thus afforded have

brought about a sensible reduction in the length of the exclusion from school. Satisfactory as this result may be considered, the success still depends upon the care with which the mothers will carry out the treatment suggested, and there are many parents who cease to persevere. It is doubtful if any drug can be claimed to have any specific action on the fungus, and it is now recognised that X-ray treatment offers the only speedy and safe cure for the disease, and this is gradually superseding other forms of treatment. At Bradford it is found that cases so treated are able to return to school after one month. This is at least one-fifth of the time required for a case treated by drugs.

The Medical Superintendent of the Bradford Union Hospital quotes, in his latest report, the following figures showing the contrast between the old and new methods of treatment:—

	Number of Ringworm Cases discharged cured.	Total Number of Days which Treatment lasted.	Average Duration of Treatment.	Maximum Duration of Treatment.
Last year 	36	2,920	81 days	333 days
This year 	54	1,505	27·8 days	50 days

These figures require no comment. They speak for themselves.

X-ray apparatus for the treatment of Ringworm exists at the General and Skin Hospitals, but these Institutions are not in a position to undertake the routine treatment of any increased number of children. Some further provision is therefore necessary if the treatment by X-rays is to be applied, and for this provision the following methods are possible:—

1. The installation of an apparatus by the Education Committee, to be used by the medical staff.

2. The appointment of some expert to work the installation provided by the Education Committee.

3. A contract with some person or persons to treat by their own installations such children as are found to be suitable cases.

The question of an installation for the treatment of the Poor Law cases is now (January, 1911) under discussion by the Board of Guardians, and the installation of an apparatus only awaits the permission of the Local Government Board.

No cases of Favus have been reported in the past year. This affection is of extremely rare occurrence in Birmingham, only seven cases having been reported from the schools in the past two years.

TUBERCULOSIS

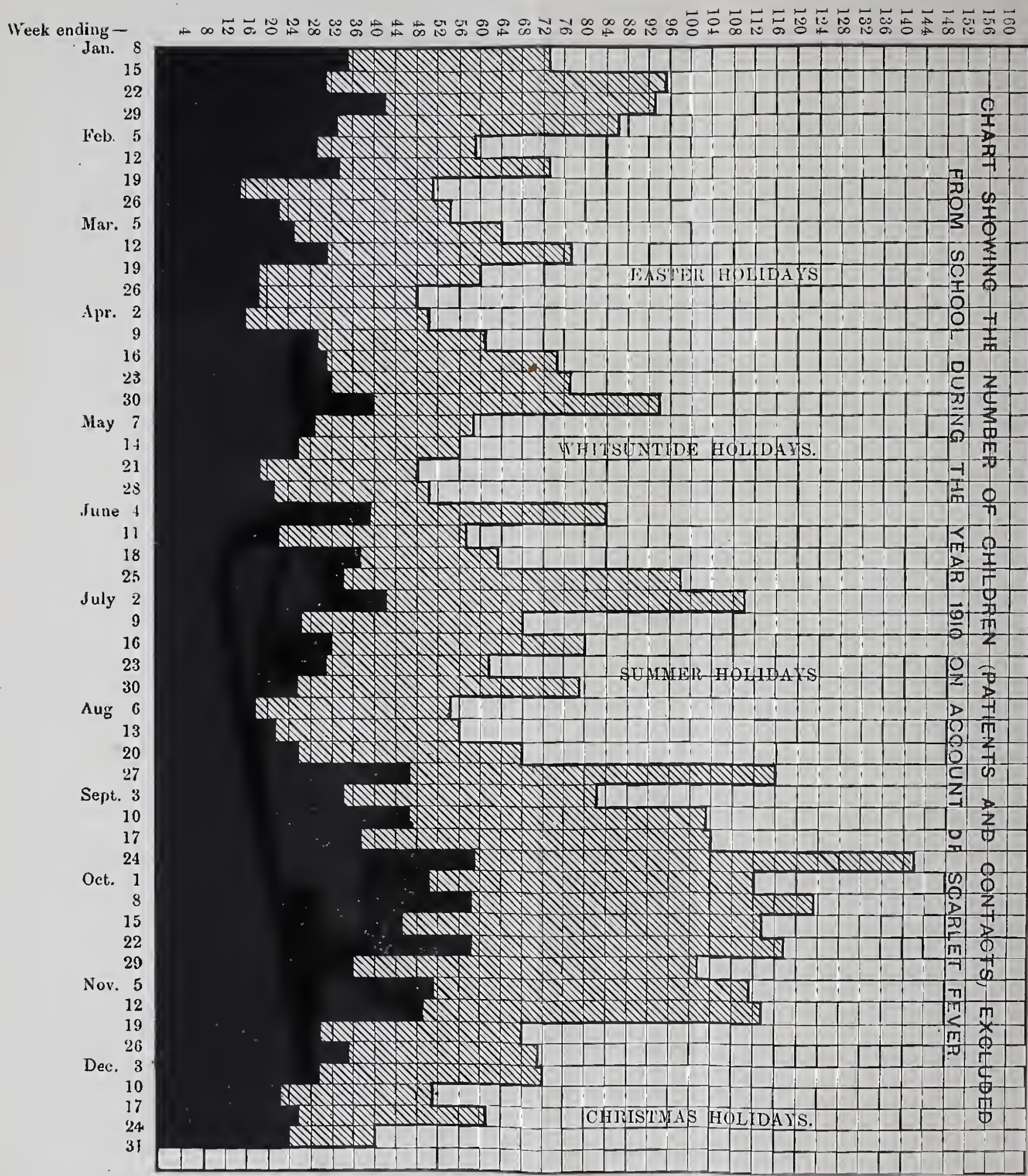
The difficulty of arriving at a correct diagnosis in children who show symptoms of tuberculous disease of the lungs is great, for the signs and symptoms are often so obscure and indefinite that different observers would fail to agree as to their precise significance. If such tests as Calmette's re-action or Von Pirquet's vaccination test are employed, a very large number (according to some as many as 80 to 90 per cent.) re-act, and thus show how widespread is the infection, yet in how small a number the disease becomes active. Indeed, it has been urged that tuberculous infection must be regarded in a new light, rather as an incident of early life analogous to the almost inevitable attack of measles. It is, however, quite certain that a

largely preponderating number of children who show symptoms of pulmonary disease are, or have been, in close contact with a sufferer from the acute disease. These facts stand as a warning that the absence of fresh air and healthy environment in the school, as in the home, are the most important factors in converting a case of potential tuberculosis into an actual one. They moreover completely vindicate the position of those who would retain the children at school unless bacterioscopic examination has proved that they are actually disseminators of the bacilli of tuberculosis. The phthisical child is the product, not of school, but rather of the conditions of the home and the family. A very large proportion of the children found to present suspicious signs and symptoms during the medical inspection in the schools, and who are sent up for re-examination by the Medical Superintendent, give a history of tuberculosis in some near relative.

There are at the present time 264 children on the register of children requiring continued observation by reason of symptoms suggestive of pulmonary tuberculosis. In addition five children whose names have been on the register in the course of the year are known to be dead, and 25 have left school by reason of age. The physical condition of each child is carefully noted at the time of examination and an attempt is made to re-examine each child at subsequent medical inspections of the school which they attend. Other cases are periodically examined at the Office by the Medical Superintendent. It is gratifying to note that a considerable number of parents avail themselves of this opportunity and bring their children to the Office at stated intervals.

It is quite possible by securing periodical examinations in this way not only to gauge the progress or subsidence of the infection but to allow children to obtain an education, without which their feeble bodies cannot in after-life maintain the struggle to earn a living. Children are not infrequently seen who have not attended school for three or even four years, yet to exclude such children is tantamount to an acknowledgment of failure. The regulated school day, with its alternate periods of activity and physical exercises, the school *camaraderie*, the breakfasts, when these are obtained, the greater possibility of help from ameliorative agencies, social and moral training, and the general supervision by the teachers—each plays a part in the struggle to regain health.

Some provision is required for those children who are suffering from pulmonary tuberculosis to an extent which renders it inadvisable or impossible for them to continue to attend school. These children must be regarded as potential transmitters of infection, as indeed their exclusion from school connotes, and therefore their presence amongst the other children of the home (frequently under conditions of overcrowding) may constitute a danger. There is practically no sanatorium accommodation for such children at present, yet that the probability of a satisfactory recovery, given suitable conditions, is in many ways more favourable than in the case of adults is proved by the experiments at Meathop Sanatorium, Westmoreland, where an attempt is made to continue the education of the children admitted.



ZYMOTIC DISEASE.

Measles.—Following the severe epidemic in the early part of 1909 the City enjoyed an almost complete immunity in the first half of 1910. The bi-annual cycle of measles is thus again illustrated and the gradual accumulation of children unprotected by a previous attack in the Infants' Departments has prepared the way for the epidemic of 1911, presaged by the increasing number of cases reported weekly from the beginning of November.

Scarlet Fever.—The accompanying diagram, based upon figures supplied by the Medical Officer of Health, shows the incidence of scarlet fever amongst children in the public elementary schools in each week of the year. The darkly shaded columns give the total number of school cases of scarlet fever notified during each week. The lighter and darker portions together show the total number of children whose exclusion on account of scarlet fever began during each week of the year. The lighter part thus represents the number of children excluded as "contacts." An attempt has been made to estimate the number of school days lost on account of scarlet fever. By a careful analysis of the figures taken from the Exclusion Register the number of actual school days lost has been calculated for a period of six months. This calculation shows that taking sufferers and contacts together the average number of school days lost by each child has been 20.5 days. There were 4,018 children excluded during the year. It thus appears that no less than 82,369 school days were lost owing to scarlet fever. The table shows the usual autumnal rise in the case incidence. The schools have suffered in very different degrees in various parts of the City, but in no case could any outbreak be definitely traced to the presence of a "carrier" or missed case in the classes, although in several instances children were found in school showing evidence of desquamation.

Diphtheria.—The number of cases in the schools has not been unduly large and school attendance has not appeared to have any marked influence upon the general incidence of this disease.

No schools have been closed during the year on account of the prevalence of infectious disease.

REGISTER OF CHILDREN EXCLUDED ON MEDICAL GROUNDS.

This register of children who are excluded by the Medical Superintendent under Article 53(b) of the Code is proving its utility, although there are still numbers of children who are absent from school on medical grounds, even for long periods, whose names are not to be found there. The formation of this register is a step towards the consolidation and unification of method in dealing with disease incidence in the schools. It is manifest that in order to deal with the diseases which affect children of school age in any satisfactory manner, knowledge of the causes of absence and the frequency incidence of individual diseases is necessary. This is more especially true of those diseases which keep individual children away from school for prolonged periods, and cause for them an irreparable educational loss, as for example chorea, heart disease, tuberculosis, eye-defects, ringworm, etc. These children are for the most part under medical treatment, generally more or less spasmodic, and it is of importance that there should be some direct means of communication and co-operation between the School Medical Officer and the Medical Practitioner who is treating the case. This can best be secured by the formation of a register of such children. To this end conferences and discussions have been held by the various interests represented and, on the

proposal of the British Medical Association, a form of certificate has been suggested for use in these long standing cases. This, by showing the nature of the disease, under the signature of the doctor, gives the information which is absolutely necessary if the scheme is to work satisfactorily, by enabling the School Medical Officer to take his share in re-establishing the health of the children.

Every step towards establishing complete confidence and co-operation between the medical profession and the Medical Department of the Education Committee makes for increased efficiency, and marks an advance towards fitting education to the needs of the individual child.

The increasing differentiation of abnormal children by the foundation of Special Schools for the Physically and Mentally Defective, the Deaf, the Blind and Partially Blind, and the establishment of an Open Air School for ailing children, allows far more individual attention than has hitherto been possible.

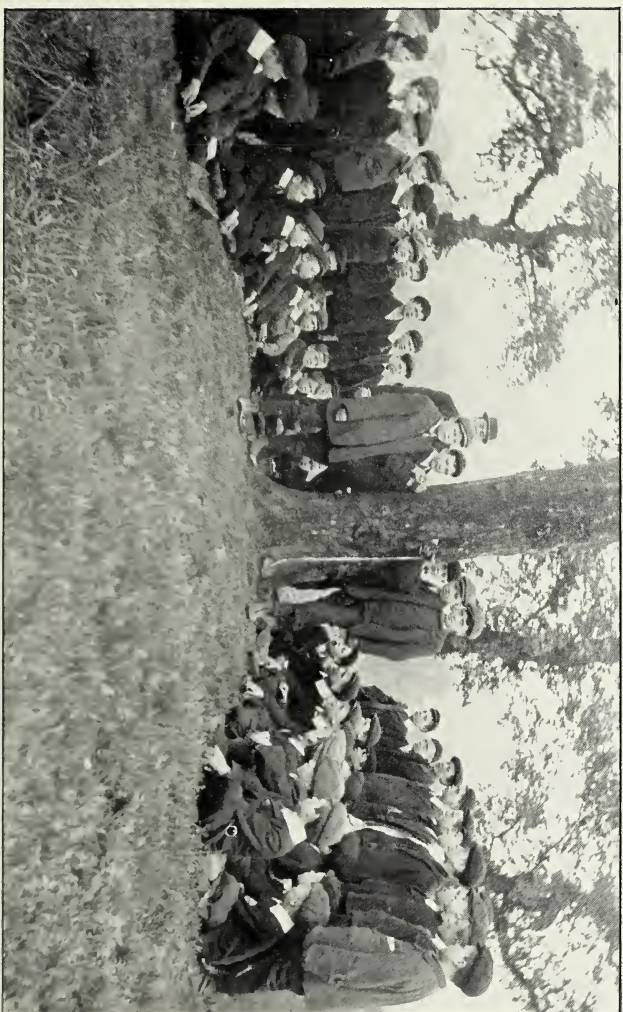
The case of partially blind children may be cited as a concrete example (see page 92). When the question of the formation of a Partially Blind Day Class was mooted, more than 30 children were found by the School Attendance Officers who had been out of school on medical certificates for periods extending into years. These children are now receiving special instruction and in many cases the names of the children are forwarded to the Medical Superintendent by the Ophthalmic Surgeon under whose care they are. The children suffering from recurrent attacks of chorea form a problem of a similar nature. Unless the disease from which these children have been suffering is known at the school at which the child attends, no special

precautions can be taken, and there is every probability that after a few weeks or months the disease returns, to make further havoc of the child's education. If the School Medical Officer is acquainted with these cases he can issue special instructions or he can take steps to certify the child for a Physically-Defective or Open Air School, or exclude the child, as the case may warrant.

OPEN AIR SCHOOL.

The provision of an Open Air School, to the need of which reference has been made in the two previous reports, will shortly be an accomplished fact through the generous gift of Mr. and Mrs. Barrow Cadbury.

Situate at an elevation of some 500 feet above sea level upon a fine gravel sub-soil which slopes away to the south, the site is peculiarly suitable for the purpose, commanding as it does an unobstructed view of the beauties of Uffculme Park and an uninterrupted expanse of sky. That which lends additional value to the site is the fact that no less than four tramway routes from the City converge upon it and thus place a very large area of the City, including some of the poorest and most crowded parts, and at least 23 schools, within reach of the benefits which the school will offer to delicate and debilitated children. The epithet "experimental" can no longer be applied to schools of this kind with any degree of justification, for their utility has been amply proved by experience and the rapidly increasing number of open air schools indicates the recognition that they form a necessary part of educational organisation. The school has been designed by Messrs. Cossins, Peacock and Bewlay, for the reception of 120 children and will possess several new and distinctive features :—(a) The absence of any covered corridor and



[Photo by W. J. Phillips]

OPEN AIR LESSON IN WARLEY WOODS.

the resulting full light and complete air circulation round the three class rooms. (b) The position of the kitchen on the first floor of the central block, communication with the dining room being made by a double lift. This arrangement will give a very roomy kitchen for teaching purposes and allow complete cross ventilation, which will prevent any smell of cooking from pervading the dining room or school premises. Beneath the kitchen will be a large bath room with ten shower rosettes and a separate room containing a slipper bath. A room with a good north light will be provided for the Medical Officer, for the necessary examinations, blood-tests and other similar researches. The three separate class rooms are to be closed only on the north, the three remaining sides being provided with glazed folding screens. The floor is to be boarded and covered with linoleum. The fourth class room will adjoin the dining room, the opposite end of which can be appropriated for a class room, should occasion require it. The resting-shed will be a large open building, closed on the north side. The gable ends are to be pierced. It will be roofed with asbestos slates.

For attendance a choice will be made of those suffering from anæmia, mal-nutrition, chorea, bronchitis, convalescence after acute disease and similar debilitating conditions. A list of suitable children is already in existence. There is no reason why the school should not remain open throughout the year. Experience has shown that improvement in physique is most marked during the colder months; the "flagging" of children during the hot weather is well known. It is probable that, given an adequate supply of nutritious food and proper clothing, moderate cold is a most valuable natural tonic and one of the most potent remedies for anæmia. An anæmic condition is at the root of much of the debility of childhood.

The recognition of the value of fresh air, both in the prevention and in the cure of disease, will be quickened by the establishment of open air schools, but it must not be for one moment forgotten that fresh air is needed quite as much by children who pass in our schools as healthy. A valuable educational lesson will be lost if the provision of an open air school does not lead to an attempt to introduce more open air methods in the existing schools in other parts of the City. It is quite within the range of practical problems to modify existing school buildings so as to reap the full advantage of sunshine and fresh air by the introduction of new types of window sashes and by securing a proper and efficient cross ventilation. Experience has proved that the plenum system of ventilation has serious drawbacks when applied to an elementary school, not the least of which is teaching the necessity of fresh air by precept rather than by example.

Another valuable adjunct to this work is the institution of open air classes in the playgrounds, especially during the hot summer months. In a few schools playground classes are held during the hot weather, but much more use might be made of the playgrounds for this purpose.

Mention may be made of the open air classes and rambles conducted by Mr. J. Commander, Head Master of Summer Lane Boys' School. This experiment merits very careful consideration, for the rambles do not cause a break in the time table and exercise a real influence upon the health as well as upon the intelligence of the children who participate in them. Permission was given to take each class above Standard III. for one whole or half day per month during the summer to some of the open country



[Photo by W. J. Tibbatts.

PHYSICAL EXERCISES IN WARLEY WOODS.

spaces in the district. The children carry their own food and pay their own expenses. Special attention may be drawn to this fact for the school stands in a part of the City where poverty is rife. Sutton Park, Barr Beacon, Hodge Hill Common, Uffculme, Queslett, Aston Hall, Warley Woods and Olton have all been visited in this way. The accompanying illustrations show better than any description the practical character of the work done. Children of this class rarely take any journey other than to and from school and the exploration of an area of hitherto unknown country is an extraordinary stimulus to the intellectual faculties.

PHYSICAL EXERCISES.

The Board of Education Manual of Physical Exercises is now in use throughout the schools. In addition to the exercises therein described the elder children use dumb bells, clubs or staves. Allusion was made in last year's report to the tendency to make the breathing exercises subservient to voice production rather than full inflation of the lungs and proper nasal breathing. This tendency is still very common.

Swimming.—The number of free passes to the baths granted to children who can swim one length continues to prove the usefulness of the privilege granted by the Baths and Parks Committee. 2,314 passes were granted to boys in the course of the year, an increase of 456 over any previous figure. Endurance and distance swimming certificates (ten lengths) were gained by 584 boys, the previous maximum being 566. A most gratifying increase is also seen in the number of passes granted to girls, *i.e.*, 66, against 32 in 1909, while 9 girls gained the distance

certificate. These figures testify to the growing popularity of swimming amongst the girls. There is no doubt that if further facilities for girls were offered many more would avail themselves of the opportunities of obtaining one of the most valuable and useful forms of physical exercise known.

Apart from these exercises may be mentioned the cricket, football and athletic sports, inter-school competitions and challenge trophies, for these play a valuable part in the physical education and exercise a powerful and far-reaching influence upon the development of the boys.

FEEDING.

The year has been marked by several important changes in the distribution of food under the Provision of Meals Act, 1906.

The food is now given in a class-room (with the exception of Jenkins Street School, where tables are placed in the corridor) in each school. (Previously one school was used as a centre to which the children from surrounding schools proceeded and returned to their own schools before 9.0 a.m.) There are a few exceptions to this new rule, *i.e.*, in cases where a small school is in the immediate neighbourhood of a large school, *e.g.*, St. John's C.E. School, Deritend and Floodgate Street, St. Anne's C.E. School, Devon Street and Loxton Street.

The advantages which accrue from this arrangement are very real. There is no longer the necessity for a tramp, in some cases for a considerable distance, often in inclement weather, and the children are enabled to sit down in a warmed room and to take their food without

that element of hurry which was inseparable from the old system. At the same time the smaller numbers to be dealt with in any given school and the provision of some form of table and seating accommodation are the first steps towards the introduction of some of the social amenities of a meal. One of the chief educational values of a "meal" as distinct from a "distribution of food" is the opportunity of teaching the children to regard themselves as members of an organised community with social duties to each other. It must not be forgotten that in many of the poorest homes meals, as such, do not exist and that the food lies on the table all through the day, to be snatched up and eaten whenever whim or hunger prompts. The introduction of tables and seats, of plates, forks and spoons, and the orderly arrangement of beginning and ending the meal with a grace cannot fail to have a marked effect in the general and moral value of the meal,* while at the same time the longer period allowed for sitting and talking favours the digestion of the food. The mid-day meals provided in the Special Schools are a model of what may be done in the way of variety and orderly arrangement. They are, moreover, self-supporting. These advantages are so self-evident that an effort should be made, where possible, to secure them whether the meal is given in the morning or at mid-day.

Secondly, a more varied menu has been introduced in a number of schools.

Under date December 3rd, 1909, the following memorandum on this aspect of the problem was submitted to the Attendance, Finance and General Purposes Sub-Committee by the Medical Superintendent.

* cf. Report on Partially Blind Day Class, page 92.

MEMORANDUM *re* BREAKFASTS FOR NECESSITOUS
CHILDREN.

There are certain desiderata which should be kept in view in the determination of the best means of supplying food to those children who, by reason of insufficient food, are unable to benefit by the instruction given in the schools. These may be arranged as follow :—

(1) That it shall, as far as possible, supply those food constituents in which the usual food taken by the children is deficient, *i.e.*, the proteids and fats. These constituents should, moreover, be in proportion to one another.

(2) That other things being equal such palatability and variety shall be introduced as may exercise tonic effect upon the mucous membranes of the stomach and bowels.

(3) That the food shall introduce warmth into the system ; *i.e.*, that the food shall be as warm as can be taken by the children, for warmth taken into the stomach in this way is as desirable as is the proper food value.

(4) That the digestibility shall be such that it is capable of digestion by weakly children, and, if possible, the consistency should be such as to give exercise in mastication.

There are also certain points which should be kept in mind in devising means of distribution :—

(1) The diminution of haste in taking the food. This is aided by—

(2) The introduction of social order by means of seats and tables.

(3) That the room in which the food is eaten shall be of such a temperature as will prevent undue loss of body heat.

To secure these various conditions I suggest :—

(1) That the cocoa be made in accordance with the following recipe :—

The best way to prepare the cocoa is to heat the milk or milk and water to the boiling point. The cocoa and sugar are then carefully stirred into a thin paste with boiling water, the paste is poured into the milk, and the whole allowed to boil for a minute or so. This will make a more appetising concoction, and one from which the cocoa will only separate out slowly.

(2) That two kinds of bread, of whole-meal and seconds flour, be provided. This will satisfy conditions 1, 2 and 4.

(3) That dripping be used as well as margarine, and that 50 children be the maximum number per pound. This again satisfies conditions 1, 2 and 4.

(4) That at those centres where it can conveniently be prepared, an attempt be made to introduce porridge, which should be taken with treacle or demerara sugar. It would be necessary to prepare the porridge overnight, and heat it before distribution. A breakfast of milk and porridge with sugar is without doubt the most perfect meal of its kind, and satisfies all the conditions mentioned above, for it possesses a high protein and fat value, a high specific heat, a high degree of digestibility and tonic action, and is, moreover, appetising.

It has been found that where porridge has been given, that although for the first few days some of the children refuse it, as they have never seen or tasted it before, they have quickly learned to enjoy it.

A well-made rice pudding also forms a most valuable food. Rice contains much less fat than does oatmeal, but this deficiency is more than counterbalanced by the milk used in the preparation. If thought fit rice pudding could be used, at appropriate seasons, in conjunction with stewed fruit.

The value of "whole meal" and "seconds" flour depends upon the proteid content and the tonic action which the coarser meal has upon the digestive system.

The need for internal and external body warmth arises from the facts that there is, relative to the bulk of the body, a greater proportionate loss of heat from a child than from an adult, and that those children who are qualified recipients of free breakfasts carry with them (on account of their condition of poverty) an insufficiency of clothing to prevent heat loss.

In alternation with cocoa (the cocoa might be made with half whole-milk and half skim-milk) pea soup could be provided at a very small cost, and without difficult preparation. This forms a highly-nutritious food, and complies with the four conditions above mentioned.

By using foods with alternatives, such as suggested in the accompanying table, a number of combinations could be made, and considerable variety introduced into the meals provided with little or no additional cost:—

DAY.	MENU. *
Monday ...	Cocoa, whole-meal bread, margarine and jam.
Tuesday ..	Hot milk, porridge with treacle or sugar, "seconds" bread and dripping.
Wednesday ...	Cocoa, whole-meal bread, margarine and jam.
Thursday ...	Hot milk, porridge with treacle, "seconds" bread and dripping.
Friday ...	Thick pea soup, bread and jam, and bread and dripping (a slice of each).

These suggested alternatives are so chosen that the meal on each day as far as possible satisfies all the conditions enumerated. It must, however, be remembered that children whose digestion is impaired cannot at once accommodate themselves to a reasonable diet and have a predilection for strong flavours, probably because these, by stimulating the palate, produce a readier flow of gastric secretion. Any food to the sight of which they are unaccustomed should be introduced by degrees only.

The necessary utensils for the preparation of these variations could be supplied at a very slight cost.

It has not yet been found possible to carry out the whole of this suggested menu, but considerable variety has been introduced, as will be observed from a further memorandum presented to the Attendance, Finance and General Purposes Sub-Committee (*vide infra*).

A jacket boiler for cooking the porridge was installed at Garrison Lane and on June 13th a beginning of the alternative diet was made. On the same date the use of classrooms in place of the "breakfast centres" was established. The experiment has proved an unqualified success, as may be gauged from the memorandum presented by the Medical Superintendent under date November 9th, 1910.

MEMORANDUM *re* FEEDING OF NECESSITOUS SCHOOL CHILDREN.

The success which has attended the provision of a more varied and liberal menu at Garrison Lane, Allcock Street and Ada Street Schools is so assured that the extension of the scheme to other centres calls for early consideration.

I have paid six visits to these schools during distribution, and have also visited Rea Street and Windsor Street in connection with the breakfasts. I find that the porridge is greatly appreciated. For instance, all the children at Ada Street with the exception of three took it, and at Garrison Lane the refusal is limited to three members of a single family. In fact, the fame of the porridge has spread to other schools, and I understand that the children at Tilton Road School make enquiries for it. Enquiries from the children elicited their decided preference for the porridge (Tuesdays, Thursdays and Fridays).

It is well cooked and thoroughly appetising. The amount distributed daily at the present time is:—

Allcock Street	...	...	...	33 lbs.
Ada Street...	...	...	...	24 lbs.
Garrison Lane	...	...	...	20 lbs.

The steam-jacket boiler at Garrison Lane is quite capable of making three to four times as much without additional labour.

The advantages which accrue from a diet of porridge are several:—

(1) From its high proteid value it is a highly nutritious food.

(2) It has great heat-retaining power, and thus introduces a supply of heat into the body.

(3) It is further a splendid vehicle for getting the children to take milk (the most valuable and easily-digested proteid and fatty food) and sugar (a carbo-hydrate heat-forming food).

(4) It compels the children to sit down while they are feeding.

This latter advantage is further aided by the use of a classroom for the meal, the value of which will become still more apparent when the colder weather sets in. In spite of this, however, the tendency to gulp down the cocoa (the new method of preparation of which has effected a great improvement), and to take the bread and jam out into the schoolyard is still very apparent. One of the objects of the arrangement is thus lost, and an effort should be made to get the children to sit still until they have finished their food. In one school newspaper is used in lieu of a tablecloth to cover the desks. In the two other schools no cover is used, but the desks are wiped down with a wet cloth to remove traces of jam, butter, &c.

A meal of porridge also has the advantage that it induces more readily a sensation of satiety than does the bread and jam. It is to this factor that the assuagement of the sense of hunger is in the main due. The children who cannot manage to eat the bread and dripping at the time are able to keep it for their lunch. These children are thus to some extent supplied with two meals at the price of one. This is a very real and beneficial result.

The whole-meal bread is liked and taken up by the children.

The cooking and distribution reflect the highest credit upon Mr. and Mrs. Baker, the caretakers of Garrison Lane School, and to them the success of the experiment is mainly due.

Upon an analysis of the amount of food value of the two breakfasts, it will be seen at once that the porridge-dripping breakfast is greatly superior to the cocoa-jam breakfast in each of the great food materials, while the total food value is much greater. This food or energy value is expressed in calories or heat units, *i.e.*, the

amount of heat liberated at the combustion of a known weight of the given foodstuff. A calorie is the amount of heat required to raise one gram of water one degree Centigrade. The following are the values of the respective diets which have been kindly worked out for me by Mr. S. Davies, Ph.D., M.Sc., from measurements taken by myself:—

	Weight in grams.	Protein. %	Weight.	Fat %	Weight.	Carbo- hydrates %	Weight.
Oatmeal ..	60.	16.1	9.66	7.2	4.32	67.5	40.5
Treacle ..	21.5	—	—	—	—	70.0	15.05
Dripping ..	14.	—	—	98.0	13.72	—	—
Bread ..	72.5	9.	6.53	1.0	.72	53.0	38.43
Milk .. (10oz.)	293.	3.3	9.67	4.0	11.72	5.0	14.65
Total weights ..			25.9		30.3		108.6

Energy Values.

<i>Porridge-Dripping.</i>				<i>Cocoa-Jam-Margarine.</i>			
Protein ...	...	106 ca	s.	Protein ...	...	93.07	calories.
Fat ...	...	284	,,	Fat ...	...	112.53	,,
Carbo-hydrates ...	...	445	,,	Carbo-hydrates	...	428.45	,,
Total calories ...	...	<u>835</u>		Total calories	...	<u>634.05</u>	

To obtain the measurements for these figures I weighed sample breakfasts from those given to children on two separate occasions. I have taken the arithmetical mean of the results. It is interesting to find that there is considerable uniformity in the amounts given to each child at the different centres.

I suggest that a similar scheme shall be inaugurated in another part of the City. Fox Street and Windsor Street Schools stand in another area where much

chronic poverty exists, and either of these schools would form an admirable centre for the distribution of porridge. In the immediate neighbourhood of these schools are Dartmouth Street, St. Vincent's R.C., St. Michael's R.C., Bishop Ryder's C.E., Gem Street (Deaf, Mentally-Defective, and Council) Schools. The three latter are at present amalgamated for this purpose. In the basement of the Mentally-Defective Centre are a number of rooms which might be utilised for this purpose.

All the schools named could without difficulty be supplied from one centre. They are, moreover, near the central depot of the Birmingham Dairy Company, from which the milk and cocoa are distributed.

The suggested extension of the porridge-dripping diet was approved by the Attendance, Finance and General Purposes Sub-Committee and a jacket boiler has recently been installed at Windsor Street for the preparation of the porridge, which is distributed to the schools named in the memorandum. The results of this extended trial are equally satisfactory and there appears to be no reason why the scheme should not be gradually extended throughout the whole City.

So many factors enter into the question of nutrition and mental receptivity that it is difficult to give in precise terms any statement of measurable improvement evidenced in those children who are in receipt of free breakfasts. There are many children who show signs of severe malnutrition for whom, from a medical standpoint, a warm morning meal is highly desirable, yet who do not obtain a breakfast either because the family income does not fall

within the necessary limit or because the parents are unwilling to take the necessary steps to secure the meal. The former case is met by the powers given under the Act to recover the cost from the parents and there are other means of compelling the parents either to supply an adequate meal or to pay the necessary sum for the school breakfast.* Some ready means should be designed whereby these children should be enabled to obtain the meal on the recommendation of the Medical Superintendent, who would be made acquainted with such cases by the School Medical Officers. This is especially important in the so-called pre-tuberculous children, *i.e.*, those whose general conditions of body betoken a grave liability to tuberculous infection.

The following table indicates the average number of breakfasts supplied daily during each month in the year 1910:—

January	...	...	2,963	(three school weeks only).
February	...	...	3,242	
March	...	...	3,084	(Easter Holidays).
April	...	...	2,508	
May	...	...	2,227	(Whitsuntide Holidays).
June	...	...	1,964	
July	...	...	1,738	(Midsummer Holidays).
August	...	...	1,528	
September	...	...	1,681	
October	...	...	1,695	
November	...	...	1,842	
December	...	...	2,041	(Christmas Holidays).

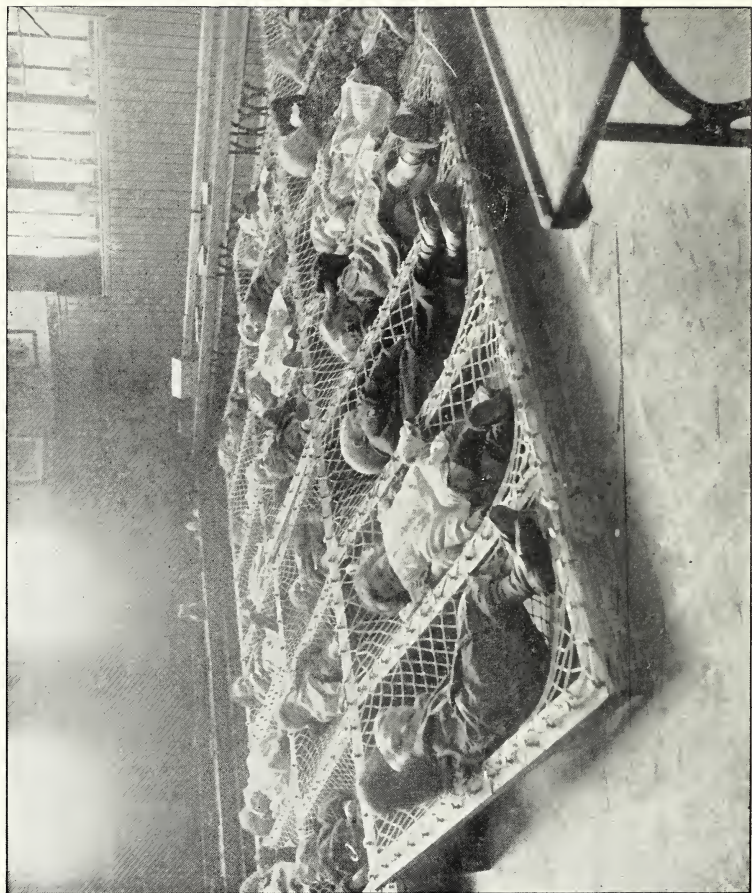
* In one case brought to my notice, where the father's wages rendered him liable to repay the cost, the boy gave up attending for the breakfast, because his father is said to have threatened "to break the boy's back" if he continued to receive it, thereby incurring the financial liability for his parents.

SEATING, ETC.

The question of suitable seating for the children has an essential importance which has been in the past frequently neglected or overlooked. A desk of faulty construction or of which the size or height is not properly co-ordinated to the height of the child is fruitful of several evil consequences. The chief of these is the production of faulty attitudes of body, and spinal rotation with the tendency to bring the head too close to the work. This habit of working with the eyes only about eight inches from the exercise has an influence which is most detrimental to the eyes of the child. It is, however, exceedingly prevalent, even where the teachers are fully alive to the importance of its correction. It arises from the fact that owing to the fatigue which is readily induced by an effort at accommodation or insufficient lighting, young children are apt to sacrifice clear vision for the less clearly focussed but larger image of the object at which they look.

It is not too much to say that a very large number of the older desks in use in the schools exhibit serious structural defects and tend to induce and to render permanent the faulty attitudes and eye strain. A very large number are of the variety known as "plus desks," *i.e.*, there is a distance varying from one to five inches between a vertical line dropped from the near edge of the desk and the front of the seat. The evils which arise from the use of such a desk are apparent at a glance, especially when the lesson is one requiring writing or drawing, when the children will be seen to be "sprawling" in all kinds of faulty attitudes in an attempt to find a position which diminishes strain. This strain is further intensified by the absence of any adequate back-rest. It will be observed

that the weight of the body is poised upon the tubera ischii near the front of the seat, and that practically very little of the weight of the thigh (which from the thickness of the muscles here is considerable) is carried by the seat, but instead is supported by the knee. A back rest no higher than the level of the iliac crests is of no value in diminishing fatigue, and it is quite impossible for a growing child to maintain a correct attitude for any long time unless the desk is properly suited to its size. The essentials of a good desk are (1) that the seat should support two-thirds of the length of the thighs, and (2) that its height should be sufficient to allow the feet to rest upon the ground with the knees bent at right angles. (3) The height of the desk should be such as to allow the elbow and forearm to rest upon it while the body and head are maintained in a straight attitude. A vertical line dropped from the near edge of the desk ought to touch the near edge of the seat (the zero desk), or at most, for elder children, a plus distance of one inch may be allowed, or the vertical line may fall behind the edge of the seat and thus form a minus desk. Back rests should be attached to each desk and should reach up to the level of the shoulder blades. As the height and physique of children vary so greatly it will be necessary to have several sizes of desks in each class room. These should be so numbered that the teacher can tell at once the height of the children for whom they are suitable. The principle of suiting the seat to the needs of the individual child is accepted as a *sine quâ non* of a Physically-Defective Centre, and its extension to the schools for the normal children is only a logical sequence of this acceptance. Some of the desks in use are capable of alteration so as to make them more satisfactory.



[Photo : G. A. A.]

COMPOSITE HAMMOCK IN
BABY ROOM AT SUMMER LANE INFANTS' SCHOOL.

In the Infants' Schools, especially for the smaller children, there is much to be said in favour of chairs with rounded backs in place of the fixed seats. A movable tray fixed to the arms will play the role of desk. One great advantage of such a provision is the ease with which the floor space can be cleared. The paramount importance of sleep for the smaller infants is almost a commonplace and a mid-day sleep is for them a physiological necessity. Listlessness and inattention are amongst the smallest of the indications of an overtired nervous system. In the baby classes we have sometimes seen every child with its head upon the desk attempting to snatch a few minutes sleep. Yet in such a position, even to a weary head, restful sleep is impossible owing to the obstruction to the breathing occasioned by the position of the head, which allows little more than a restless drowsiness. Very different is the case of the infants whose good fortune is to attend the Infants' Department at Summer Lane School. Here the netting and cheap frames serve for a couch which is at once hygienic and comfortable. The netting is boiled monthly or oftener and it has the advantage of allowing a free circulation of air all round the children. The frames are light, economical, and easily packed away. Miss Palmer, the Head Mistress, has kindly supplied the following observations on fifty consecutive afternoons (October 3rd to December 9th, 1910) :—

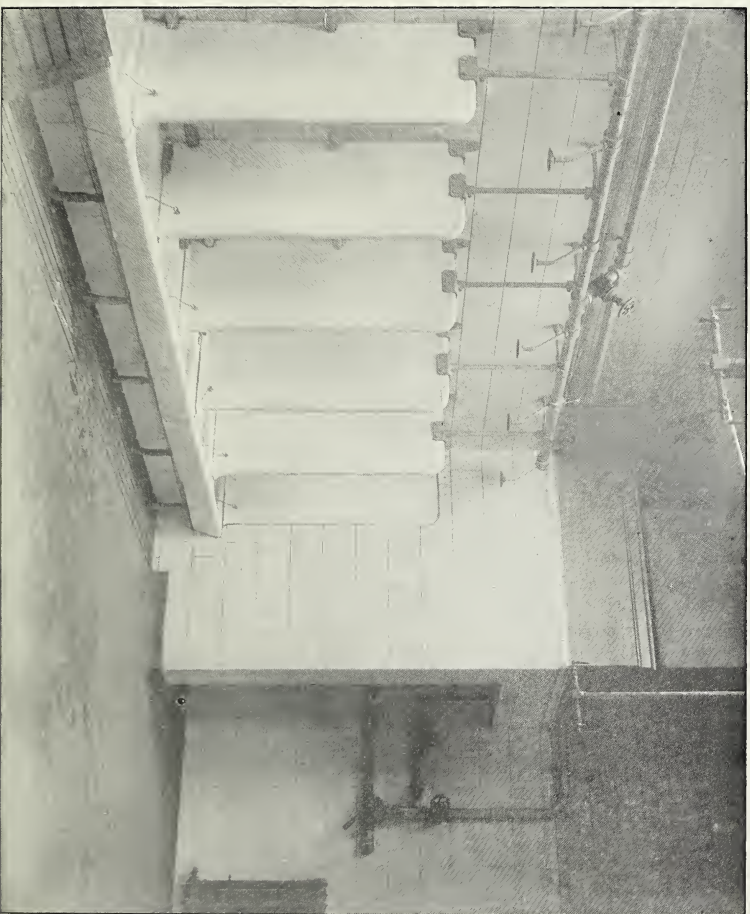
Average number present in Baby Room ...	20
Average number who slept in Baby Room	16
Average time when sleep was general ...	2-38 p.m.
Average time when awakening was general	3-41 p.m.
Average duration of sleep	63 minutes.
Average number awakened to go home at } 4-30 p.m.	5
Highest number awakened to go home at } 4-30 p.m.	10

It will thus be seen that at least an hour's sleep was obtained by the children. In a similar series of observations, taken on the inception of the scheme five years ago, the average duration of the sleep during the autumn and winter months was 62 minutes, while during three summer months the average was 83 minutes. The main cause of this increase is probably the heat of the summer months and the consequent increased physiological activity of the body functions, but the shorter nights may have contributed by lessening the amount of nocturnal sleep. A further interesting series of observations was taken to test the result of the sleep upon some of the brightest and liveliest children in the baby room. Sixteen children were kept under observation. Their collective afternoon attendances during the period were 180 and the number of sleeps was 149. 83 per cent. of the children obtained sleep, and there is every reason to suppose that there is a definite relationship between the fact of sleep and the mental activity.

The extension of this simple expedient to other centres in neighbourhoods where the working mothers send their children to school at the earliest possible age would be a boon so great as to outweigh the small cost involved. The babies' room at Dartmouth Street School, for example, is eminently suitable for the extension of the scheme.

CLEANSING, BATHS AND PERSONAL HYGIENE.

The school bath installations at Floodgate Street and Gem Street continue their useful work and supply a need which is increasingly evident. The need for some method of teaching practical cleanliness can only be fully estimated by those who have to examine large numbers of children. The school bath systems in Holland, Norway,



[*Photo: G. A. A.*]

SHOWER BATH INSTALLATION
AT FLOODGATE STREET COUNCIL SCHOOL.

light is very poor, a long mirror has recently been fixed along the ceiling to throw some of the light on to the desks immediately below the window. This serves no useful purpose, for, as the total illumination entering the room is insufficient, no amount of reflection will increase its intensity. The use of a very light paint or distemper (*i.e.*, a pale cream) and white-washing of the ceilings at such intervals of time as will secure its dead whiteness will prevent light absorption and will render more light available for general illumination. The Thorner's Light Tester has proved to give a satisfactory measure of the intensity of the illumination at any given point.

SANITATION.

The sanitation of the schools has been found to be satisfactory on the whole. Reports on defects have been presented from time to time. Some of the defects have been corrected. At St. Paul's C.E. School, Camden Drive, the midden privies have been replaced during the year by a highly satisfactory system of water closets with separate flushing tanks. Alterations in the sanitary accommodation at St. Paul's C.E. School, Spencer Street, and at Bishop Ryder's C.E. School are now under the consideration of the Managers.

Very satisfactory systems of closets have been placed in St. David's C.E. School, Bordesley Trinity C.E. School (Girls' and Infants' Departments), and at Edgbaston Parish School.

A point to which my attention has been frequently drawn, both by the School Medical Officers and by the teachers, as by my own observation, is the absence of any flushing apparatus for the boys' urinals at a very large

number of schools. During the warm weather nuisance frequently arises from this fact. This difficulty can, however, be easily remedied by the use of a preparation already in use by the Health Department for similar purposes.

CONCLUSIONS IN REGARD TO ORDINARY ELEMENTARY
SCHOOLS.

Medical inspection has thus given a measure of the incidence of defects and it is now possible to gauge their effect upon the efficiency of the present educational system. Certain defects call for especial attention, viz., eye-defects, adenoids, unsound teeth, and ringworm. These defects have an influence as profound as it is far-reaching, and when viewed in its true perspective an organised attempt at the amelioration of these and similar defects will be seen to be the necessary complement of all educational activity.

SPECIAL SCHOOLS.

SCHOOLS FOR MENTALLY-DEFECTIVE CHILDREN.

The uncertainty engendered by the continued delay in legislative action for the better care and control of the feeble-minded continues to influence the question of further provision of Special School accommodation, while the present impossibility of providing proper after-care supervision or detention renders nugatory much of the effort expended upon mentally-defective children. The absence of any statutory provision of protective care after school age is the chief defect which calls for remedy in any legislative proposals. From the clinical point of view, as from that of practical economics, the problem is of comparatively recent origin and, in the ten years which have elapsed since the passing of the Education (Defective and Epileptic Children) Act, the educational methods followed have been necessarily to a large extent empirical. Without the basis of the experience thus acquired it would not have been possible to approach the difficulties of the problem to-day with any prospect of a satisfactory solution. The widespread interest in the scientific aspect of the question at the present time is reflected by the fact that a Committee of the British Association is now engaged in the consideration of mental deficiency from the psychological standpoint, while a Committee of the Medico-Psychological Association is approaching the subject from the alienist point of view. This focussing of scientific attention cannot fail to exercise a profound influence upon the educational methods employed; in fact, the centre of gravity is already shifting from the "3 R" curriculum to one in which manual training holds a preponderating place. Whatever may be

the future position of Special Schools in a more widely extended organisation of care and control under new legislation, their retention as observation centres will be a necessary part of the appointments of a Local Education Authority. Here it will be possible to differentiate between the high-grade imbecile and the "merely dull and backward," to gauge the trainability of the idiot, and to estimate the character of the education best suited to the individual capacity of the children in attendance.

The key to all progress in the education of mentally-defective children lies in a careful classification based upon observation extending over some considerable time, in which both the teacher and the School Medical Officer must bear their share. This fundamental fact was insisted upon with strong emphasis by all who took part in the discussions in the International School Hygiene Congress at Paris (Abnormal Children Section), and it is clear that this classification must be from the standpoint of trainability and education rather than from that of pathology. It is, therefore, of the highest importance that those who are engaged in teaching the mentally-defective should be able to bring to bear upon their work some knowledge of the advances which the cumulative experience of the past has rendered possible. Otherwise there is a danger of the teaching methods becoming rigid rule-of-thumb. It will be urged that this is equally true of the normal school. Here, however, a knowledge of the advances in educational methods is more readily accessible than is the case with the more specialised subject. To take a concrete example:—A considerable number of children are presented for examination as mentally-deficient whose chief or only sign of abnormality is an inability to learn to read. This is one of the most frequent and clearly defined forms of defective

intellectual capacity known as "word-blindness," although in the majority of cases the defect extends beyond the sphere of the word-memory complex and shows itself in a diminished capacity in other directions. Unless the psychology of the processes involved in reading be clearly understood, there will be a danger of overlooking the chief defect and of attempting to teach letters by inappropriate methods, with the result that the child will fail to acquire that power which is of such importance under modern conditions—the ability to read. Or again, to certain children dictation forms an insuperable difficulty and results in extraordinary spelling or in a mere string of letters. Yet a careful consideration of the character of the mistakes may frequently give a clue to the mental processes involved and thus lead to an attempt to rectify the difficulty by a change of method. Periodic conferences between the teachers and the School Medical Officer with an occasional course of lectures dealing with these problems, or based upon the syllabus proposed by the Board of Education, would prove a boon, not only to the staff of the Special Schools, but equally to that of the ordinary elementary schools, to whom the presence of a feebly-gifted child in their class is a constant source of difficulty.

Much interest is now manifested in the question of mental tests for the discrimination between the types of intellectual capacity and the proper grading of the children, but there are many pitfalls in work of this kind, and the time is not yet ripe for any pronouncement as to their practical utility.

Various forms of tests have been devised, but each is of limited application only. These vary in character from the rigid objectivity of Weygandt's tests to the wholly subjective tests of Binet and Simon. The former consists

of a cabinet full of objects, some forty in number, which are designed to form an increasingly complex and comprehensive test of the senses and the intellectual capacities. Binet and Simon, on the other hand, base their tests upon what they believe to be the average mental acquisitions of normal children at successive age-periods. It would thus seem that while there is ample room for the introduction of psychological methods, ripe experience and discriminating judgment rather than any one system are the chief guides to a successful diagnosis. It is probable that each examiner who works systematically comes to form his own system of tests and his own standard of normal mentality for different age-periods against which he will weigh the mentality of the child before him. He will then supplement and confirm the deductions he has drawn by objective tests, and, from his observations, he will be able to draw his inferences as to the existence or degree of mental defect.

There are other factors which must be taken into consideration which are too intangible to be accurately gauged or defined—the tendency to moral turpitude or to the committal of anti-social actions such as frequently characterise the higher grade imbecile. Yet intellectual tests entirely fail to discover these or the “a-moral” child whose deficiency consists in a morbid incapacity to form a moral conception or to conform to the fundamental conditions of social order. These, although capable of self support, are a menace to society. To cite a single example: X.Z., age 12, Standard 3; since the age of 6 has been a consistent thief of money from his parents. He covers his misdemeanours with plausible lies—*e.g.*, that the money has been snatched from his hands; makes up all sorts of romances about his doings—that he has won prizes at school, or that he belongs to the Boy Scouts. He reads readily but very incorrectly, calculates quickly and with

precision, writes fairly from dictation but omits the smaller words. Thus, while below the average of his age, he cannot be termed mentally deficient on a purely intellectual test. The exalted egotism to which his actions and statements testify is the chief guide to his mental defect. Brought up in a comfortable and careful home and surrounded by good influences, there is yet a danger that his propensities will bring this boy into conflict with the forces of order. The higher grade imbecile is a potential criminal who needs only a suitable environment for the development and expression of his criminal tendencies. I have elsewhere shown that the number of mentally-defective children who appear before the Courts does not represent the total amount of petty crime committed by them, for many persons refuse to prosecute when they learn that a child is "afflicted." The establishment of a Remand Home in the City marks an advance, and offers an unique opportunity for the necessary observation for signs of mental defect in the inmates under remand.

Another objection to the intellectual tests is the present ignorance of the causes of retardation and backwardness. There is ample room for investigation into this question on the lines of the careful studies which have been made in the schools of Philadelphia and other American cities. Retardation, *i.e.*, the mis-relation between the intellectual attainments and the age of the child, is the result of so many complex factors that it seems unsafe to assume that an average age-intelligence exists except in the broadest sense. Retardation cannot be taken altogether as an index of inferior mental ability; it may be due to illness and physical disability, change of school, late entrance, and also slow mental development. Too much importance is attached to the single fact of age, and there

is still a very manifest tendency to promote children from the Infants' to the Upper Departments solely because of their age, without regard to the physical and mental fitness for such promotion. It is highly probable that classes for retarded children on the Mannheim principle would throw a valuable light on the subject, and would serve a very useful purpose.

It is now more clearly recognised that there is a line of distinction to be drawn between what has been well termed the "formal" education and the "effective" education,* and the establishment of Trade Schools and Schools for Elder Children is the result of this recognition. In an enquiry made by the Chairman of the Special Schools Sub-Committee, to whom I am indebted for the use of these figures, it was found that out of 94 children over 14 years of age who had left the mentally-defective centres during the previous 12 months only 36 had been able to read a Standard I. reader correctly, while 58 had not even acquired this modicum of letters. Similarly, an estimate by the teachers of the 818 children upon the registers, showed 272 (33·2 per cent.) as being unlikely to read a Standard I. reader. In this connection the following table is of interest:—

No. of children on registers at date of enquiry	818
No. of children over 12	392
No. of children over 12 doing half-time in the workshops or kitchens	350
No. of children over 12, but too low-grade for workshops or kitchens	27
No. of children over 12 just about to be transferred to workshops or kitchens	15
No. who, in the opinion of the teachers, will not be able to read Standard I. reader when they leave school	272

* Karl Pearson, *Eugenic Laboratory Memoirs*. XIV.

There is one point in the training of the feeble-minded children the importance of which is not, at present, sufficiently recognised, *i.e.*, the teaching of proper articulation. Defective speech can be largely overcome by careful training, even amongst the feeble-minded in whom it is exceedingly common (*cf.* page 25). Lack of imitative power, deafness, insufficiency of muscular co-ordination are amongst the causes. Care expended upon the speech and correct pronunciation not only has a beneficial action upon the various brain centres but has a very direct bearing upon the wage-earning capacity in after life. At least one member of the staff of a school for mentally-deficient children should have received training and be capable of teaching proper articulation. The speech mirror should be a part of the apparatus of each class room.

The choice of suitable text-books presents some difficulties, for the acquisition of reading and spelling is in point of importance secondary to the acquisition of language and vocabulary. The matter detailed should be of sufficient interest to stimulate and hold the attention, however simple the words employed. Few, if any, of the reading books in use comply with these requirements.

In any manual curriculum there is one point to be kept carefully in view, *i.e.*, that such manual work shall be chosen as will stimulate the faculties by securing the interest of the children. Much time is sometimes devoted in Special Schools elsewhere to the manufacture of objects which can be of no practical value or interest to the children, for example, wooden kettle stands, or bent-iron paper racks which could not find a useful place in their own homes. The "immediate value" of this mental stimulus is shown by the rapidity with which some boys in the Special Schools learn to calculate when they become street traders. At one

of the periodic examinations a boy whose mental attainments were exceedingly meagre related without hesitation all the steps required to form a bridge on the lines taught to the Boy Scouts, which body he had joined. This principle has been usefully put into practice in the manual teaching at Bristol Street Special School, where a number of clogs are made each week for the Police-aided Association, which has given a standing order. At the other manual centres the children are encouraged to make their own boots or clothes and an attempt is made to secure interchange by taking orders in one centre to be fulfilled in another.

During the year, 203 children have been examined under the provisions of the Elementary Education (Defective and Epileptic Children) Act, 1899. Of these 140 (*i.e.*, 69 per cent.) have been certified as mentally defective, and 63 have been returned to school for further observation. Twenty other children have been examined, but were considered to show too low a grade of mental capacity to allow them to take advantage of the Special Schools curriculum. During the Cripple Enquiry a considerable number of physically-defective aments have been seen, some of whom had not been previously known to the Committee. The periodic examinations have resulted in the return of 9 children to the Elementary Schools.

In this connection it should be noted that there are at the present time in Monyhull Colony seven children licensed out from Sandwell Hall, to which institution they had been committed under the Industrial Schools Act. These are all feeble-minded girls who have been committed until 16 years of age. They have now been at the colony for twelve months and, with the exception of one case, the general improvement has been exceedingly good. The single

exception has now begun to improve. This improvement shows how much benefit can be gained from the regulated daily life of a colony, in tractability, alertness and general intelligence, with little formal teaching. There is, however, another side of the picture. At the age of 16 they will pass from this careful tutelage with bodies well developed by the healthy life they have led but with no commensurate power of self-control to protect them from the dangers which will assail them. Yet no statutory power exists which will extend protection to them in spite of themselves.

EPILEPSY.

During the year eight children have been certified for admission to Institutions. The incidence of epilepsy in the children of the Elementary Schools, and the best method of dealing with it, have received careful consideration. The accompanying Report was submitted by the Medical Superintendent :—

To the Special Schools Sub-Committee.

In accordance with your request I have made an investigation into the question of the present position of the Epileptics in the educational organisation of the City.

Certain points stand out in strong relief in connection with epilepsy, and these must be taken into consideration in any scheme for the education of sufferers from this disease.

1. Epilepsy, in a very large number of cases, begins before the period of adolescence. In at least 50 per cent. of the cases the fits have begun before the age of fourteen.

2. In a large number of cases there is a progressive deterioration of mental and intellectual capacity. This is especially the case where suitable treatment has not been

carried out continuously and from within a short period of the commencement of the fits. The epileptic, moreover, has a characteristic mental temperament which often renders him so irritable and exacting as to be a very disturbing element, or even a danger in the circle of his home.

3. Curative measures are of a threefold character, and must be long continued if real cure is to accrue. Speaking generally a patient may be deemed to be cured if there is complete freedom from fits for three years.

In this triple aspect of cure the most important part is played by—

(a) A natural open-air and absolutely regular life, with sufficient manual labour and exercise to keep the body in good condition and to promote such a degree of bodily fatigue as will induce healthy sleep. The importance of the absolute regularity of life is borne out by the experience of several Epileptic Institutions—that even the break in the routine of life occasioned by the observance of Sunday is found to have a noticeable effect upon the condition of the inmates.

(b) Careful attention to diet and bodily functions.

(c) The administration of drugs, which, if it is to have real value, must be under the constant supervision of a properly qualified person, who must be in a position to note the effect produced and to modify the dosage accordingly. The indiscriminate administration of drugs without careful and continued supervision cannot be too strongly deprecated. It is still a moot point whether the long continued use of bromides may or may not induce a permanent impairment of the functioning brain tissue. In any case large doses becloud the intellect. It is therefore specially to be avoided in the case of children who are at the same time receiving an intellectual education.

4. The nature of the malady is such that success bears an intimate relation to the age at which treatment is begun. An identical story is told by every institution, *i.e.*, that the children are not sent to them until it is too late to secure permanent and lasting benefit.

“Most of our Colonists come to us too late to be cured of their fits. The children give brilliant results: one-third of them become free from fits. Our five years experience seems to show that if all epileptic children, whatever their social position, were sent on the first appearance of epileptic symptoms to an epileptic colony, and kept there to the end of their school life, the benefit to themselves, to their relatives and to the State would be enormous.”

(Report, 1909, of Dr. Alan McDougall, Director, David Lewis Manchester Epileptic Colony, Cheshire).

“We make the strongest appeal possible for the admission of more young epileptics while the disease is acute, and the possibility of cure has not been destroyed.”

(Report, 1909, of Managers of Craig Colony for Epileptics, Sonyea, N.Y., U.S.A.).

“Another point in arguing for the care and treatment of more epileptic children is that recent epilepsy is more amenable to treatment than chronic—and since so many epileptics are bound in any event to become public charges so long as they shall live, their industrial education, the giving to them of a vocation by which they can earn a living, is easier when they are young than when they are old.”

(Report, 1907, of Managers of Craig Colony for Epileptics, Sonyea, N.Y., U.S.A.).

The idea that the child will grow out of the fits is a mistaken one and is not borne out by facts, but it is due to the prevalence of this idea that the majority of children sent to institutions have already reached an age when cure can hardly be hoped for.

5. Another point which must be kept in mind is that the epileptic condition is frequently associated with a characteristic mental and moral disposition which shows itself in a tendency to vice and moral turpitude. It is for this reason of the utmost importance to remove an epileptic child, so far as is possible, from undesirable surroundings. It therefore becomes a moral necessity to remove epileptic children, where possible, from the chances of moral contamination in the epileptic wards of a Poor Law Workhouse.

To quote the evidence given before the Royal Commission on Poor Laws, by Dr. Alexander, Consulting Physician to the Maghull Epileptic Colony, "The children of the poor who are epileptic cannot be treated at home and no serious attempt is ever made to save them from drifting into the hopeless condition of epileptic insanity."*

These considerations force upon us the conviction that for those whose fits are frequent or severe or whose social circumstance supplies no shield from physical or moral danger, only in an institution specially designed for the purpose can adequate education be carried out; an institution preferably linked in close association with one providing a permanent asylum for such children who, on reaching the limit of school age, are found to be unable by reason of their defect to compete on ordinary terms with their fellows, those who on leaving school tend to "take up a wandering life with the practical certainty of becoming vicious or criminal, and probably both."

* Report of Royal Commission on Poor Laws. Part X., p. 882.

Numbers.—An attempt has been made to ascertain the number of epileptics existing in the City at the present time.

1. In June last a circular was sent to the Head Teachers in the Elementary Schools. In the replies to this circular 83 children were stated to be known cases of epilepsy. The circular also included questions relating to attacks of vacancy or sudden falls, "fainting attacks," or other symptoms which might, under certain circumstances, indicate minor epilepsy.

2. The Special Schools Head Mistresses report 27 children, sufferers from epilepsy, at present in attendance at their schools. The cost of these to the Committee is about £3 3s. 0d. each per annum.

3. The School Attendance Officers report 92 epileptics as known to exist in their respective areas.

4. 15 epileptics are at present maintained by the Education Committee in various institutions, viz.,

Chalfont	...	...	...	3
Maghull	...	...	...	4
Lingfield	...	...	...	5
Starnthwaite	...	...	...	2
Much Hadham	...	...	...	1

The average cost to the Committee is 14s. per week per head.

In addition to the cases in the above categories there are four boys of school age in the Male Epileptic Ward of the Infirmary, all of whom are feeble-minded. On the Female side of the Workhouse are three epileptic children under seven years of age, all feeble-minded. The Clerk to the Guardians gives two additional names of children in respect of whom Poor Law relief is received. No cases

were reported from the Receiving Homes (Summer Hill Terrace), Marston Green Homes, or the Roman Catholic Home, Coleshill.

As many cases as it has been possible to trace have been individually examined. In a certain number of cases the history did not seem sufficiently definite to warrant their inclusion in the list of epileptics. Great care was taken to ascertain in doubtful cases whether the description of the symptoms warranted the diagnosis of Petit-mal. Including the children who are already at the Special Day Schools for the Mentally-Defective, 144 are considered to suffer from epilepsy. These have been classified as follow :—

I.—Children suitable for Residential Schools for Epileptics—i.e., cases who show no intellectual deterioration, and in whom there is a good chance of arresting the progress of the disease, and who, therefore, may be rendered self-supporting.

Boys	...	...	17
Girls	...	...	16
			33

Children already in Residential Schools for Epileptics.

Boys	...	...	6
Girls	...	...	9
			15

II.—Children in whom mental defect is combined with Epilepsy—i.e., cases who need training, and who will need continuous care and control.

(1) Those for whom training in a Day School for the Mentally-Defective is possible for the present.

Boys	...	...	17
Girls	...	...	25
			42

(10 boys and 13 girls of these are already attending Day Special Schools for the Mentally-Defective.)

(2) Those who cannot, owing to the severity of the disease and its accompanying characteristics, be trained in Day Schools, but who are capable of being trained in Residential Schools for the Mentally-Defective.

Boys	...	...	3
Girls	...	...	6
			9

(3) Those whose degree of defect renders Imbecile Asylum treatment and training advisable.

(a) Those at present under suitable parental care and control.

Boys	...	...	3
Girls	...	...	1
			4

(b) Those not under suitable parental care and control.

Boys	...	...	1
Girls	...	...	1
			2

III.—Children suitable for attendance at Ordinary Elementary Schools—i.e., those who have had but one or two fits, and who should be kept under observation, and those whose history and condition shows that cure is highly improbable.

Boys	...	...	20
Girls	...	...	19
			39

Totals—

Boys	...	...	67
Girls	...	...	77
			144

From the statement made at the beginning of the report, it will be seen that for the first group of the above classification the need of a suitable educational curriculum is most pressing, for the children who comprise this class show at present no mental impairment. Should the Bill for an enlargement of the City become law these figures will be increased. If the figures for the present City are assumed to be approximately correct, on the assumption that 43,000 children will be added to the elementary school population, it may be estimated that it will be necessary to make provision for another 23 children.

It is difficult to form an estimate of the value of the education given in the Special School, as the available numbers are small. The results given in a return by the Head Teachers of the Special Schools concerning epileptics who have passed through their hands cannot be deemed satisfactory. The information has been checked with the After-Care Sub-Committee returns :—

Lost sight of	...	...	...	...	8
In Epileptic Colonies	...	...	...	...	3
At home (not working)...	...	...	...	...	3
At work (one earns 7s. per week)	...	...	...	...	2
At Sandwell Hall	...	...	...	...	1
In Asylum	...	...	...	...	1
Awaiting admission to Colony...	...	...	...	...	1
Returned to ordinary school	...	...	...	...	1
At another Special School	...	...	...	...	1
(in another town)					
					21

It must, however, be borne in mind that, speaking generally, in these cases and in those that belong to the second group, the epilepsy has been an incident in the general mental and physical degeneration. The figures, therefore, must not be used as a gauge of the utility of the Curriculum in the Special Day Schools. They prove rather that these children would not in any circumstances have become capable of self-support. They serve, however, to throw into higher relief the desirability of concentrating attention upon those children in whom the epilepsy has not made havoc of the intellectual faculties.

During the year I have visited the institutions named: Chalfont, David Lewis Colony, Hillingdon, Lingfield, Maghull, Monyhull, Richmond (private), the Royal Albert, Sandlebridge, Starnthwaite, Soss Moss (Manchester Education Committee), Special Schools in London (two), Manchester (two), and Bradford.

While attending the International Congress on School Hygiene in Paris I visited the Bicêtre. I have further received much valuable information on the treatment of epileptics from the United States of America through the kindness of the Hon. Albert Halstead, Consul in Birming-

ham; from Norway, Dr. Schetelig having supplied me with much valuable literature; Amsterdam (Dr. Bergmanns); Frankfort (Dr. Koenig); Mannheim (Dr. Stephani), and Strassburg (Dr. Belin). I visited schools and classes for mentally-defective children at each of these cities at the close of 1909.

SCHOOLS FOR PHYSICALLY-DEFECTIVE CHILDREN.

There are, at the present time, 222 children on the roll of attendance at the two Physically-defective Centres. These may be classified under the following heads:—

A.—Congenital :

Congenital deformities	...	...	...	2
Congenital dislocation of hips	...	...	...	4
Talipes...	...	...	...	1
Fragilitas ossium (brother and sister)	...	...	...	2
Infantilism (brother and sister)	...	...	...	2

B.—Acquired :

1. Paralysis—

Infantile	...	...	...	51
Hemiplegia	...	...	...	3
Progressive muscular atrophy	...	...	...	1

2. Tuberculosis—

Caries of the spine	...	...	...	54
Hip disease	...	...	...	45
Caries of knee, ankle, hand	...	...	...	15
Bladder	...	...	...	1
Glands, etc.	...	...	...	3

3. Amputations	...	...	...	10
4. Gun shot wound in head	...	...	...	1
5. Tracheotomy, Laryngeal constriction	...	...	...	1
6. Heart diseases	...	...	...	6
7. Rickets	...	...	...	14
8. Scoliosis	...	...	...	5
9. Elephantiasis of legs	...	...	...	1

Total	...	...	...	<u>222</u>
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One hundred and thirty-five children were examined under the Elementary Education (Defective and Epileptic Children) Act, and 89 of these were certified for attendance, and are included in the above list. Forty-six were allowed to continue to attend Elementary Schools. At the periodic examinations 15 children were returned to the Elementary Schools.

It will be seen from this list that from the point of view of their disabilities the children fall into two classes with different educational needs.*

1. Those children who, previously sound, have been crippled by the onset of disease which is progressive in its nature, and, unless arrested, will ultimately progress towards permanent disablement and death. Tuberculous disease of the lungs or the bones, recurrent rheumatic affections leading to endocarditis and its sequelæ, recurrent chorea, etc., form the greater number in this category.

2. Children who suffer from some permanent disablement, due either to congenital defect or the results of non-progressive disease acquired in early life. To this class belong the sufferers from congenital deformities, infantile paralysis, rickets, accidents resulting in loss of limbs, congenital heart disease.

This division into progressive and stationary cases is very important from the educational standpoint. A considerable proportion of the second category can be, and indeed is, educated by ordinary methods in normal schools. Those of the remainder who attend at a physically-defective centre, do so in the main because the

* See Telford, "The Problem of the Cripple School Child."

school journey presents difficulties or because the deprivation of the use of a limb necessitates more systematic and individual attention than can be given under ordinary circumstances.

The case is very different with the progressive class. The end and aim of the attempt to educate these children is to render them capable of self-support. This aim will be frustrated unless every effort is made *pari passu* to arrest the progress of the malady. The loss is not merely an economic one, but means the missed opportunity of giving another child the chance which might have had more favourable results.

Conversely, an attempt to cure a child and thus render him physically fit for the struggle for existence extending over several years is of little value if, on reaching adult life, his educational equipment is too meagre to allow him to undertake that kind of work of which alone his enfeebled frame is capable.

Many of the children who belong to the first category are, by reason of their physical disabilities, deprived of this necessary education, unless means can be found to bring it to them. Compelled to lie in bed, or recumbent for long periods, a little simple instruction serves to stimulate the intelligence while it affords new interests to enliven the inevitable monotony of invalidism. In the case of the elder children, it prevents the complete loss of such education as has already been obtained.

No scheme for dealing with the educable cripples can be considered complete which does not make provision for both these classes of physically-defective children. In some places the problem has been attacked by the

provision of a residential school for cripples, as for example that maintained at Swinton House by the Manchester Education Committee. Here some sixty beds are in constant occupation by children whose period of detention is determined solely by their physical condition, and is rarely under one year. Close association with a children's hospital is secured, and if operative treatment is indicated the child is transferred to the hospital wards. The teaching is carried out by a specially selected staff, and the lives of the children are lived in the open air. It is evident that a school of this kind reaches a number of children belonging to the first category given above who, otherwise, would fail of any education whatever, for their physical condition places a day school out of the question. So satisfactory have been the results obtained that a further extension of the scheme has now been made with accommodation for sixty more children.

At the London Orthopædic Hospital and the Alexandra Hospital for Hip Disease a London County Council teacher is attached to each ward, while a holiday teacher is also provided and the teaching is under the inspection of the Superintendent of Special Schools.

In the Institution known as "The Woodlands," Northfield, maintained by the Cripples' Union, there is a fine opportunity of similar good work. It has a capacity for at least sixty beds which are occupied for long periods, in many cases by children who have already attended at the Physically-defective Day Centres. A return of the children admitted to "The Woodlands" since the opening in May, 1909, kindly supplied by Mr. F. Mathews, Secretary of the Cripples' Union, shows that 8 have previously attended one of the Special (Physically-

Defective) Day Schools, 13 have attended ordinary schools (the average age of these children is 6), 22 are known to have attended no school hitherto, and of the remaining 23 no information is forthcoming, but the presumption is that many of these, whose average age is 9 years, have never attended any school.

The average stay in the Institution by those children who have been in for a longer period than one month is 13·5 months, while the average stay of those who are still inmates of the Institution (excluding those admitted within one month of the date of the report) is 9·8 months.

These figures are a striking testimony of the reality of the opportunity which thus presents itself of enabling these children ultimately to take their places in the rank of wage earners.

Attending the Physically-defective Day Schools are a number of children whose physical defects need carefully arranged and supervised physical exercises. This aspect of the work has hitherto received but little attention, chiefly on account of the fear lest untoward results might occur in certain cases. Free and static movements, such as those which form part of the Swedish system, especially if supervised by one trained in the remedial part of the system, would confer great benefit upon those children who suffer from spinal curvature or from paralysis. The addition of some simple apparatus such as the boom would be most useful. Attention to this point would greatly enhance the value of the curriculum of these centres.

Many of the children suffering from partial paralysis of the muscles of the arms, and especially those children who have to use the left hand for writing, have found

great difficulty in using sharp pointed pens. This has been remedied by supplying circular pointed pens, which do not exhibit the same tendency to pierce the paper or to catch and spurt. A special contrivance to hold a pen or a pencil has been devised for a small boy who has lost the right arm at the shoulder and the left fore-arm. By this means he is able to write with considerable success.

During the past year an inquiry has been held into the condition of the cripples of all ages in the City. Those of school age have been examined by the Superintendent of Special Schools and the Medical Superintendent. The inquiry is not yet complete, as there remain about 150 children reported to be crippled who are either unable to be brought up for examination or whose parents have disregarded the invitation. Visits will be paid to the homes of these. The returns at present available of those children who come within the scope of the inquiry give the following interesting comparative results. The children attending special schools and those who have been examined under the 1899 Act have been included. A number of low-grade idiots who are also physically-defective have not been included.

			Boys.	Girls.	Total.
Congenital—					
Arm	...	...	12	6	18
Hip	...	...	9	13	22
Other	...	...	2	3	5
			23	22	45
Injuries and burns	...		8	8	16
Amputations—					
Arm	...	...	2	2	4
Leg	...	...	11	3	14
			21	13	34

				Boys.	Girls.	Total.
Tuberculosis—						
Upper limb	...		5	2	7	
Hip	...	...	50	43	93	
Knee	...	...	17	13	30	
Other	...	...	17	7	24	
Spine	...	...	50	44	94	
				139	109	248
Cerebral and spinal						
(Spastic paraplegia,	}		51	36	87	
diplegia, hemiplegia,						
etc. ...						
Infantile paralysis—						
Right arm...	...		7	2	9	
Left arm	...	...	4	0	4	
Right leg	...	...	39	27	66	
Left leg	...	...	58	21	79	
Both arms	...		1	0	1	
Both legs	...	...	23	12	35	
				132	62	194
Curvature	...	...	5	14	19	
Talipes	...	...	14	18	32	
Rickets	...	...	25	39	64	
				44	71	115
Total Children tabulated				410	313	723

BLIND AND PARTIALLY BLIND CHILDREN.

Ten children have been certified for admission into the Birmingham Royal Institution for the Blind. In the report for 1909 reference was made to the need for special

arrangements for the education of those children who, though not blind within the definition given in the Education (Blind and Deaf Children) Act, 1893, could not be educated in an ordinary elementary school. An attempt is now being made to supply this need by arrangement with the Committee of the Birmingham Royal Institution for the Blind, Edgbaston. Structural alterations have been carried out there to enable the Institution to receive forty children as day scholars, and the scheme came into being on October 24th. The children are conducted to and from school by guides.

The difficulties of initiation of a scheme of this kind are manifold. The disabilities of the children are various and necessitate different educational methods, while in intellectual attainments the children differ widely. Some of them have received scarcely any education, while others, especially amongst those suffering from progressive myopia, have advanced, despite their disabilities, to one of the higher standards in the elementary school. These form the most important group of cases for the day classes.

A second class of defect includes children whose sight has been seriously damaged by ophthalmia or by ulceration, or who suffer from congenital cataract, nystagmus, dislocated $\frac{c}{l}$ lens, etc., in whom, as in the previous group, the condition is permanent and irreparable.

The third class consists of children who are suffering from recurrent ulceration of the cornea. These it is confidently expected will so profit by the attention paid to their physical condition, which is the underlying cause of

their eye defect, that after a while they can return to the ordinary elementary school. Indeed, one of the most valuable adjuncts of attendance at these special day classes is the mid-day meal which is provided. This, combined with the open air and exercise, proper clothing and foot-gear, has a marked effect upon the general health and bearing of the child.

The matron reports that only two children, who came from better class homes, knew how to handle their knives, forks, and spoons, or were acquainted with the usual amenities of a meal at table. The whole demeanour has changed to an extraordinary degree through the tone and example of the Pupils' Dining Room.

The physical improvement is equally noticeable, for the average increase in weight in 15 of the girls between December 5th and February 13th, was 2·2 lbs. Several of these children lost weight during the Christmas holidays, so that the increase in weight is actually greater than this average would suggest at first sight.

The arrangement of a satisfactory curriculum for the progressive myopes is the chief difficulty. "Progressive short sight is, in every case, ominous of evil for the future" (Professor Donders). It is the *progressive* character of the defect to which attention must be paid, but it should be borne in mind that all cases of myopia, even of a high degree, are not progressive. Only prolonged observation can decide whether the myopia is increasing, but fortunately nearly all the cases have been already watched for some long period in the eye department of one or other of the hospitals of the City. If these

children are to receive any education without risk of ultimate blindness—this is the danger to which they are exposed by the ordinary school curriculum—they must be taught either by blind methods or by methods so largely oral that the eyes are used for very short periods only, and that only in good diffused daylight, the type being especially large.

Arithmetic may be largely, if not entirely, taught by the blackboard and more purely memory processes, geography by the use of relief maps, but the chief difficulty arises with the teaching of reading and its accessories, writing and spelling, which are not readily acquired by the usual methods. There is, it appears, no supply of books printed in sufficiently large type (*i.e.*, double pica) other than Infant Readers, the subject matter and wording of which are too elementary for older children. Every effort should be made to train and strengthen the memory, and much can be done in this direction by the use of purely oral methods. If, however, the eyes may be used for short periods without risk of injury it is highly desirable to make use of this means of stimulating the memory-complex, thus supplementing the musculo-motor and auditory memory centres. There seems to be no objection to the method of using the eyes for reading for two or three minutes, if large type is used and a proper distance is maintained between the eyes and the book, then closing the book and listening during the rest of the lesson. History and kindred subjects will be readily taught in this way, especially if the teacher can summarise the lesson clearly and succinctly. If the use of the eyes is contra-indicated (*e.g.*, in rapidly progressing myopia or acute keratitis) the use of Braille type overcomes the difficulty. Facility in this is acquired

readily by children who are already in possession of a knowledge of reading and spelling.* The training to the tactile sense thus given has a distinct value, while the accomplishment gives a species of cursive shorthand which may be useful.

The amount of writing taught may well be reduced to a minimum, but a useful device to prevent the too close approximation of the eyes to the paper is a bar which passes horizontally above the desk. This can be adjusted to different heights. An arrangement of this kind would prove useful.

The manual training is, of course, an easy matter, for at the Blind Institution there are facilities of every kind for acquiring some practical knowledge of a wage-earning accomplishment.

Of the 47 children whose names are registered for the class, there are, at the present time, 32 in average attendance. The causes of their defective vision may be grouped as under :—

Progressive myopia	...	...	...	12
Congenital causes	...	...	...	7
Corneal opacities	...	...	...	14
Corneal ulceration	...	...	...	14

From this list it will be seen that only 14 were certified from a cause which may be presumed to be temporary, and for whom, therefore, there is a reasonable hope for transference to the ordinary elementary school. The loss of education which many of these children have

* As instances of the facility with which the ability to read Braille type may be acquired, the following cases may be cited :—A girl, age 12, who had lost her sight three years previously, knew ten Braille letters on January 24th, yet on January 31st she was able to read to me correctly from grade 2 (contracted) Braille. A boy, blind at 14, was able to read to me fluently after two months' tuition.

suffered is a striking evidence of the value of the class. Thus, amongst the notes of the cases, there occurs a reference to the fact that

2 children	had not attended school for 3 years,
4 ,, ,, ,, ,, ,,	2 ,,
1 child	1 year.

1 boy, age 11, had only attended school for 3 weeks since he was five years of age, and 1 girl, age 10, had only attended school for two years altogether.

There is now a growing list of suitable cases and this could be very largely extended were a less rigid line of selection drawn. By the courtesy of the staff of the Eye Hospital a number of cases are now notified who formerly might not have come to our knowledge. The greater number of these cases have not attended school for a long time owing to medical certificates.

The regular attendance of a few children is prevented by difficulties of distance and transit. The question is well worthy of consideration whether in the future it will not prove more economical to establish centres for classes of this kind in different areas of the enlarged City.

Intimately associated with this question is one of still wider significance, *i.e.*, whether it is necessary or altogether desirable to train the blind wholly in an Institution, or whether they do not miss some valuable educational lessons which only daily contact with the world outside the walls of an Institution can give. This consideration has led to a very satisfactory movement in America, whereby the blind are, as far as possible, educated with their seeing comrades in the ordinary schools. Through the kindness of the Hon. Albert

Halstead, American Consul in Birmingham, the following information was obtained from Mr. John B. Curtis, Supervisor of the Blind Institution at Chicago. The letter is given verbatim, as it shows succinctly and clearly the principle upon which the practice is based, the success of which is now proved by ten years' experience.*

"Probably you know that each of our States has an Institution for the blind in which the pupils are educated free of charge, and in which they remain for a large part of the year. The Institutions have done, and are still doing, a grand work; but there are some unfavourable features connected with a system that keeps the child away from his home and trains him apart from community life. In providing instruction for blind children in the ordinary public schools it was the aim of the Board of Education to maintain the home as a factor in the child's development and to make it possible for him to grow up in a normal environment. Chicago's example has been followed by New York City, Milwaukee, Cleveland and Cincinnati.

"Our organization consists of a supervisor, four teachers and a printer. At present, instruction is given in four of our elementary schools, in each of which a room is reserved for the use of the blind pupils under the supervision of one of our teachers. In this room are kept the books, maps, and special apparatus that are required.

"We have from seven to ten pupils for each teacher. They all spend a portion of the day in the room of the special teacher for the blind, though it is our aim to have them take part in the classes for the seeing children as soon as possible. This cannot be done to any great extent during the first year, as the child must be taught to read and write the American Braille system of raised prints. A

* For further details see Annual Report of Chicago Board of Education, 1907.

fair facility in both reading and writing is usually acquired by the end of the second year, so that from the third grade on, participation in all the regular classes of the school is possible.

“We have our own Printing Office, which provides Braille copies of all the textbooks authorized by the Board of Education and furnishes all needed maps and diagrams. Our children can read their Braille readers with sufficient speed to keep the place in a class of seeing children. Their history, geography, spelling and grammar lessons are prepared from Braille books just as the seeing children study from books in ordinary print. The blind pupils take the examinations that are given to the seeing children, writing them in Braille. The special teacher reproduces these in writing, and they are then corrected by the grade teacher. Our high school pupils learn to use the typewriter. For number work, a Braille arithmetic slate is used. This slate is a metal plate containing uniform rows of pockets just large enough to admit a three-eighth inch cube. The cubes have Braille numerals upon them. With from seventy-five to one hundred cubes an ordinary problem may be worked. For geography work we have globes and raised maps. Sand secured to the surface of the globes by means of glue represents the land formation. The globes are employed to give a knowledge of the earth as a whole, while for more minute work paper maps are used. Different kinds of lines are used to show the various features, such as rivers, mountains, and the boundary lines between countries.

“We have found it best to have the hand-training work done entirely under the direction of our special teacher, as this requires so much individual attention. Besides bead-work, our girls have learned to sew, to knit and to crochet. Our boys have done good work in wood, and have learned to use tools with facility and accuracy.

“After leaving the elementary school several of our pupils have gone through the high school, and a few have gone to the university. One of the girls now holds a position as stenographer in one of the offices of the Bureau of Charities. She takes dictation on the Braille shorthand machine and reproduces on the typewriter. Her work is giving great satisfaction. How to find remunerative employment is the great problem for the blind.”

DEAF CENTRES.

During the year, 15 cases have been certified to attend the Deaf Centres.

So much of the value of lip-reading depends upon the integrity of the eyes as seeing organs, that a defect therein, combined with defective hearing, constitutes a most serious hindrance to the acquisition of any facility in lip-reading. It has been found expedient, therefore, to establish a special class for a combination of the finger method with that of oral teaching. This class was opened at the Gem Street Centre on December 5th, 1910, with nine children. Their mental and physical disabilities are so varied that at present each child requires the closest individual attention, and it is still too early to judge of the success which is likely to attend this class. The difficulty is intensified by the fact that some of these children exhibit a certain amount of feeble-mindedness.

The scheme for manual instruction for deaf boys between the ages of 14 and 16 years in suitable trades in private workshops is likely to prove highly beneficial, although difficulties are being experienced in finding employers willing to take the boys during the half of each school day, as the scheme provides, the other half-day being spent at the school.

GEORGE A. AUDEN, M.D., D.P.H.,
Medical Superintendent.

MEDICAL INSPECTION
OF
CHILDREN ATTENDING SPECIAL SCHOOLS
IN BIRMINGHAM.

REPORT FOR THE YEAR 1910.

The children were selected for examination on the same principle as in 1909, but, in addition, all those examined in 1908, who were still in attendance, were re-examined.

MENTALLY DEFECTIVE.

Three hundred and nine mentally defective children were examined. Fewer parents attended the examinations this year, probably because those who had been present in 1908 did not trouble to come a second time. Advice to seek further medical, surgical or dental aid was given in 104 cases.

Cases of lung disease were more frequent than in 1909, and cases of heart disease were almost in the same proportion to the number examined. There is a slight decrease in the number of cases of enlarged tonsils and adenoids. The proportion of cases showing defective teeth has increased.

There is defective vision in over 58 per cent. of cases tested. This is a higher percentage than in 1908 or 1909. The proportion of squints remains the same.

Cases of ear discharge have increased. Cases of defective hearing have slightly diminished. The proportion of cases showing speech defects varies very slightly from year to year.

Nutrition is, on the whole, better than in 1909; clothing and boots about the same.

There is some improvement in cleanliness, the proportion of verminous cases being less than in either of the preceding years.

PHYSICALLY DEFECTIVE.

One hundred and forty-five cases were examined.

Tuberculous cases formed a smaller percentage of the whole number examined than in either of the previous years, but probably this is only accidental, and cannot be taken as evidence that tubercle is on the decrease.

As in other years, infantile paralysis accounts for the next largest number of cases, and is followed in frequency, though at some distance, by rickets, and the remainder of the cases are caused by rarer diseases, or are the result of accident.

Nutrition is, on the whole, better; clothing and boots not quite so good as in 1909.

Of intercurrent affections, defective teeth, as usual, head the list, though with a somewhat lower percentage than in the two previous years.

The percentage of verminous children is slightly higher than in 1909, but much lower than in 1908.

Cases of defective vision are fewer than in 1909. The number of cases of squint remains fairly constant. Cases of discharging ears and of deafness show an increase, while the number of cases of enlarged tonsils and adenoids varies but little from year to year.

Lung affections, in children certified for other diseases, show an increase on the two previous years, and the same may be said of cases of heart disease.

A great improvement in general health is noteworthy amongst the majority of cases in these schools, especially in the children and staff of Little Green Lane; the move to a new, bright and airy school, in a more healthy situation, has made a great change for the better in all concerned.

DEAF.

Thirty-four children were examined. In the majority of these cases the nutrition, clothing and boots were good, and the state of cleanliness satisfactory, though vermin were present in a few.

The proportion of cases showing defective vision was somewhat large. Discharge from the ears was present in only one case examined, a much lower proportion than among the feeble-minded.

There were no cases of lung or heart disease.

Advice to seek further aid was given in 8 cases.

C. E. O'CONNOR, M.B., Ch.B. (Edin.)

Superintendent of Special Schools.

SPECIAL SCHOOLS MEDICAL INSPECTION, 1910.

TABLE I.

MENTALLY DEFECTIVE.

Number examined 309.

Defective Teeth	...	...	...	...	211
Defective Vision (192 tested)	...	...	...	...	112
Enlarged Tonsils and Adenoids	...	...	...	...	92
Speech Defects	...	...	...	...	62
Defective Hearing	...	...	...	...	50
Nits only	...	...	...	...	48
Squint	...	...	...	...	27
Discharging Ears	...	...	...	...	27
Chronic Discharge from Nose	...	...	...	...	27
Verminous	...	...	...	...	21
Deformities	...	...	...	...	19
Lung Disease	...	...	...	...	17
Various Eye Defects	..	..	...	...	15
Paralysis	...	...	...	...	8
Heart Disease	...	...	...	...	4

			Nutrition.		Clothing.		Boots.
Good	...	...	113	.	147	...	163
Fair	...	...	119	...	89	...	48
Bad	...	...	77	...	73	...	98
Parents present			...	...	..	...	195
Advice given	...	...	...	...	...	...	104

SPECIAL SCHOOLS MEDICAL INSPECTION, 1910.

TABLE II.

PHYSICALLY DEFECTIVE.

Number examined 145.

*Diseases for which Certified.**Tuberculous Cases.*

Spinal Caries	...	...	...	...	25
Hip-joint Disease	...	...	...	...	18
Tubercle of Knee-joint	...	...	...	...	4
Amputations due to Tuberculous Disease	...	...	...	...	4
Tubercle of Bladder and Kidney	...	...	...	...	1
Tubercle of Arms	...	...	...	...	1
Tubercle of Lungs (Consumption)	...	...	...	...	1
Total of Tuberculous Cases	...	...	...	...	54

Non-tuberculous Cases.

Infantile Paralysis	...	...	...	...	41
Rickets	...	...	...	...	9
Various forms of Paralysis	...	...	...	...	9
Spinal Curvature	...	...	...	...	8
Talipes (Club-foot)	...	...	...	...	4
Heart Disease	...	...	...	...	4
Hemiplegia	...	...	...	...	3
Septic Poisoning	...	...	...	...	2
Congenital Dislocation of Hips	...	...	...	...	2
Fragilitas Ossium	...	...	...	...	1
Deficiency in Skull Bone from Accident	...	...	...	...	1
Amputation due to Accident	...	...	...	...	1
Intubation of Larynx	...	...	...	...	1
Rheumatism	...	...	...	...	1
Burn	...	...	...	...	1
Elephantiasis (?)	...	...	...	...	1

Progressive Muscular Atrophy	...	...	1
Deformity of Arms	...	...	1
Total of Non-tuberculous Cases	...	91	
Tuberculous	...	...	54
Non-tuberculous	...	...	91
Total examined	...	145	

SPECIAL SCHOOLS MEDICAL INSPECTION, 1910.

TABLE III.

PHYSICALLY DEFECTIVE (*continued*).

Number examined 145.

Intercurrent Affections.

Defective Teeth	...	...	...	...	91
Enlarged Tonsils and Adenoids	...	...	...	...	34
Defective Vision (95 tested)	...	...	...	...	30
Lung Disease	...	...	...	...	23
Nits only	...	...	...	...	22
Defective Hearing	...	...	...	...	19
Discharging Ears	...	...	...	...	14
Heart Disease	...	...	...	...	14
Squint	...	...	...	...	8
Various Eye Defects	...	...	...	...	7
Chronic Discharge from Nose	...	...	...	...	6
Speech Defects	...	...	...	...	4
Verminous	...	...	...	...	1

			Nutrition.		Clothing.		Boots.
Good	...	...	42	...	100	...	90
Fair	...	...	44	...	31	...	25
Bad	...	...	59	...	14	...	30
Parents present	...	...	...	...	...	...	113
Advice given	...	...	...	...	...	...	52

SPECIAL SCHOOLS MEDICAL INSPECTION, 1910.

TABLE IV.

DEAF.

Number examined 34.

Defective Teeth	...	...	...	...	23
Defective Vision (16 tested)	..	...	...	...	
Enlarged Tonsils and Adenoids	...	...	...	6	
Nits only	...	...	...	...	3
Various Eye Defects	...	...	...	...	2
Chronic Discharge from Nose	...	...	...	2	
Verminous	...	...	...	...	1
Squint	...	...	...	...	1
Discharging Ears	...	...	...	...	1

			Nutrition.		Clothing.		Boots.
Good	...	...	15	...	23	...	22
Fair	...	...	12	..	4	...	6
Bad	...	...	7	...	7	...	6
Parents present	...	...	...	...	...	...	14
Advice given	...	...	...	...	...	...	8

